SERVICE MANUAL SR820DC

marantz®

model SR820DC

Stereophonic Receiver

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ Company has created the ultimate in stereo sound. Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If, for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

ORDERING PARTS

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order froms which are available from our National Parts Depot located at the following address:

The following information must be supplied to eliminate delays in processing your order:

1. Complete address.
2. Complete part numbers.
3. Complete description of parts.
4. Model number for which part is required (indicate MARANTZ).
5. Account number (for account customers only).

Direct consumers will be provided with the current retail price quotation on available parts in order to advise them of the cost of the parts and shipping.

OVERSEAS PARTS ORDERING

Parts may also be ordered from the following overseas addresses:

MARANTZ S.A.
326 Avenue Louise Bte 32
1050 Brussels
Belgium

MARANTZ AUDIO U.K. LTD.
Unit 15/16
Saxon Way Industrial Estate
Motor Lane
Harmondsworth UB7 OLW
Great Britain

MARANTZ BELGIUM
45 Rue Auguste Van Zande
1080 Brussels
Belgium

MARANTZ SVENSKA A.B.
Svartviksvangen 56
Traneberg
Box 12016
161 12 BROMMA
SWEDEN

MARANTZ GERMANY GMBH
Max-Planckstrasse 22
6072 Dreieich 1
West Germany

MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnieres
France

MARANTZ GMBH AUSTRIA
Wiedner Hauptstrasse 98
1050 WIEN
AUSTRIA

MARANTZ NORSKE A.S.
Refstadalleen 13
Oslo 5
Norway

MARANTZ DENMARK
Bregnerødvej 132b
3460 BIRKERØD
DENMARK

MARANTZ AUSTRALIA
32 Cross Street
Brookvale, NSW 2100
Australia

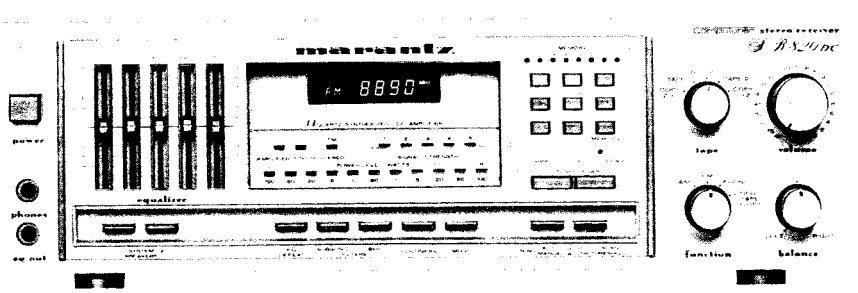
All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

marantz®

TABLE OF CONTENTS

Section		Page
1.	INTRODUCTION	1
2.	P.W. BOARDS	1
3.	TEST EQUIPMENT REQUIRED FOR SERVICING	1
4.	ALIGNMENT PROCEDURES	2
	4.1 DC of set	2
	4.2 Idling current	2
	4.2 Power LED Adjust	2
	4.4 FM Alignment Procedures	2
	4.5 AM Alignment Procedures	3
5.	ALIGNMENT POINT	5
6.	VOLTAGE CONVERSION	5
7.	CIRCUIT DESCRIPTION	5
8.	BLOCK DIAGRAM	19
9.	SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS	20
	9.1 Key Board Assembly (PT00) Schematic Diagram and Component Locations	20
	9.2 Volume/Balance Assembly (PG00) Schematic Diagram and Component Locations	20
	9.3 DE-Emphasis Assembly (PC50) Schematic Diagram and Component Locations	20
	9.4 Synthesizer Assembly (P500) Schematic Diagram and Component Locations	21
	9.5 EQ Amp. Assembly (PE00) Schematic Diagram and Component Locations	22
	9.6 Speaker Protector Assembly (PL00) Schematic Diagram and Component Locations	22
	9.7 Tuner/Phono Assembly (P100) Schematic Diagram and Component Locations	23
	9.8 EQ Volume Assembly (PE01) Schematic Diagram and Component Locations	24
	9.9 Headphone/EQ Out Assembly (PK50) Schematic Diagram and Component Locations	25
	9.10 Power Switch Assembly (PU00) Schematic Diagram and Component Locations	25
	9.11 Main Amp. Assembly (P700) Schematic Diagram and Component Locations	26
	9.12 Main Amp. Assembly (P701) Schematic Diagram and Component Locations	26
	9.13 Tape Monitor Switch Assembly (PJ00) Schematic Diagram and Component Locations	27
	9.14 Switch Assembly (PS00) Schematic Diagram and Component Locations	28
	9.15 Power Meter Assembly (PX00) Schematic Diagram and Component Locations	28
	9.16 Power Supply Assembly (P800) Schematic Diagram and Component Locations	29
	9.17 Power LED Assembly (PX01) Schematic Diagram and Component Locations	29
10.	EXPLODED VIEW AND PARTS LIST	30
11.	ELECTRICAL PARTS LIST	36
12.	TECHNICAL SPECIFICATIONS	46
13.	SCHEMATIC DIAGRAM	48

MODEL SR820DC STEREOPHONIC RECEIVER



1. INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model SR820DC Stereophonic Receiver.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the receiver.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can usually be obtained through local suppliers.

2. P.W. BOARDS

1. Tuner/Phono P100
2. Synthesizer P500
3. Main Amp P700
4. Main Amp P701
5. Power Supply P800
6. De-Emphasis. PC50
7. EQ Amp PE00
8. EQ Volume PE01
9. Volume/Balance PG00
10. Tape Monitor Switch PJ00
11. Head Phone/EQ out. PK00
12. Speaker Protector PL00
13. Switch. PS00
14. Key Board PT00
15. Power Switch PU00
16. Power Meter. PX00
17. Power LED PX01

3. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model SR820DC Receiver.

Item	Use
AM Signal Generator	Signal source for AM alignment
Test Loop	Use with AM Signal Generator
FM Signal Generator MPX Signal Generator	Signal source for FM alignment Stereo separation alignment and trouble shooting
Distortion Analyzer Audio Oscillator AC VTVM	Distortion measurements Sinewave and squarewave signal source Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Frequency Counter	MPX Oscillator adjustment (VCO)
Circuit Tester	Trouble shooting
DC VTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to amplifier
AC Ammeter	Monitors amplifier output under short circuit condition
Line Voltmeter	Monitors potential of primary power to amplifier
Variable Autotransformer	Adjusts level of primary power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup
Output Load (8 ohms, ±0.5%, 100W)	Provides 8-ohm load for amplifier output termination
Output Load (4 ohms, ±0.5%, 100W)	Provides 4-ohm load for amplifier output termination

4. ALIGNMENT PROCEDURES

AUDIO ALIGNMENT (FUNCTION switch in AUX position and VOLUME control in the minimum position at NO load)

4.1 DC of set (Adjust with a digital volt meter.)

Test point — SPK out (L & R)
Adjusting point — R705 (L), R706 (R)
Specified values — 0 mV

4.2 Idling current (Adjust with a digital volt meter.)

Test point — J705 ~ J706 (L), J707 ~ J708 (R)
Adjusting point — R717 (L), R718 (R)
Specified value — 13.2 mV (20 mA)

4.3 Power LED Adjust

Adjusting point RX03, RX04 (Frequency 1 kHz)
Specified Volues 5 point at 16.7V output.

A dummy resistor of 47 kohms must be connected across the tuner output terminals before alignment.

4.4 FM Alignment Procedures (Selector switch in the "FM" position and mode/tuning switch in the "Mono/Manual" position)

FM Local Oscillator Alignment (Scan step selector switch (SC51) in the "50 kHz" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Read out Frequency to:	Adjust:
1			DC Volt meter to point (A)	108.00 MHz	C147 for 9.25V
2				87.50 MHz	L104 for 1.25V
3	Repeat steps 1 and 2.				

FM RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Read out Frequency to:	Adjust:
1	RF generator to FM antenna terminals (B) through matching network (300 ohms balanced) (Maintain RF level below limit)	106.10 MHz	VTVM to L or R channel output (JJ01 or JJ02)	106,10 MHz	C101, C105, C107 for maximum output and minimum distortion
2		90.10 MHz		90.10 MHz	L101, L102, L103 for maximum output and minimum distortion
3	Repeat steps 1 and 2.				
4	RF generator to FM antenna terminals (B) through matching network (300 ohms balanced) (Maintain RF level below limit)	98.10 MHz	VTVM to L or R channel output (JJ01 or JJ02)	98.10 MHz	L106 for maximum output and minimum distortion
5		98.10 MHz	"O" Center Meter or DC current meter in 100 μA range to point (C) (J109 and J110)	98.10 MHz	L108 Core so that the meter indicater its center or may read "O"
6	RF generator 1 mV output to FM antenna terminals (B) through maching network (300 ohms, balanced)	98.10 MHz	Distortions meter to L or R Channel output (JJ01 or JJ02)	98.10 MHz	L109 core for minimum distortion
7	RF generator 300 μV				R131 so that signal Strength Led may light 5 points

Multiplex Alignment Procedures (Function switch in the "FM" position, Auto/Manual switch in the "Auto" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Read out Frequency to:	Adjust:
1	RF generator to FM antenna terminals (B) through matching network (300 ohms, balanced), with 1 mV FM stereo simulator RF level (E) Version 53.5% (40 kHz Deviation) 8% pilot (P) Version 100% (75 kHz Deviation) 9% pilot	No. modulation & pilot	Frequency counter to point (D)	98.10 MHz	R303 so that Frequency counter may precisely read 76 kHz
2		Pilot only	VTVM to right and left channel output (JJ01 or JJ02)		R306 so that minimum output should be the same in both channels
3	RF generator to FM antenna terminals (B) through matching network (300 ohms balanced) with 1 mV FM stereo simulator RF level (E) Version 53.5% (40 kHz Deviation) 8% pilot (P) Version 100% (75 kHz Deviation) 9% pilot	Stereo, left (1,000 Hz)	VTVM to right channel (JJ01 or JJ02)	98.10 MHz	R323 for minimum output and same separation in both channels
4		Stereo right (1,000 Hz)	VTVM to left channel (JJ01 or JJ02)		
5	Repeat step 3 and 4.				

4.5 AM ALIGNMENT Procedures (Function Switch in the "AM" position)

AM Local Oscillator Alignment (Scan Step Selector switch (SC02) in the "10 kHz" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Read out Frequency to:	Adjust:
1	No Signal	–	Frequency counter to point (G)	1400 kHz	1850 kHz at LA03

AM IF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Read out Frequency to:	Adjust:
1	Sweep generator to point (E) (JA07)	450 kHz marker	Oscilloscope to point (F) (JA03)	Quiet point on band	LA05 for maximum and symmetric response

AM RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Read out Frequency to:	Adjust:
1	Apply the signal to the AM loop antenna from the RF generator, using the test loop. As par the Figure 1	1400 kHz	VTVM to L or R Channel output (JJ01 or JJ02)	1400 kHz	CA01 for maximum output
2		600 kHz		600 kHz	LA01 for maximum output
3	Repeat step 1 and 2 as necessary to obtain maximum sensitivity.				
4		1000 kHz		1000 kHz	RA23 so that signal strength LED may light 5 point

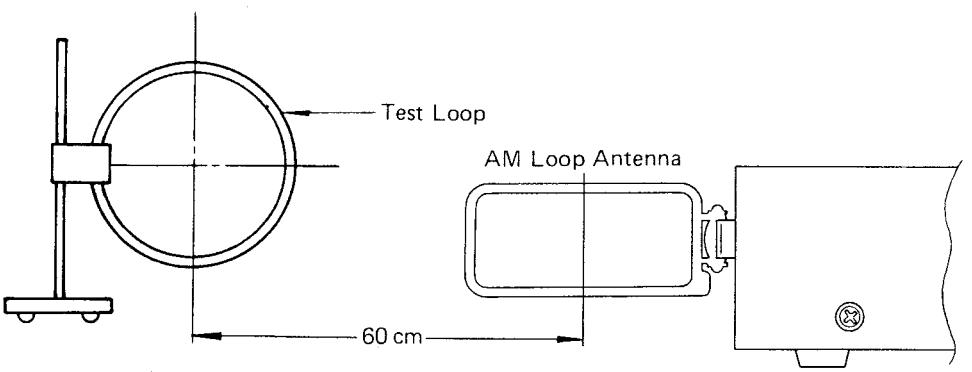
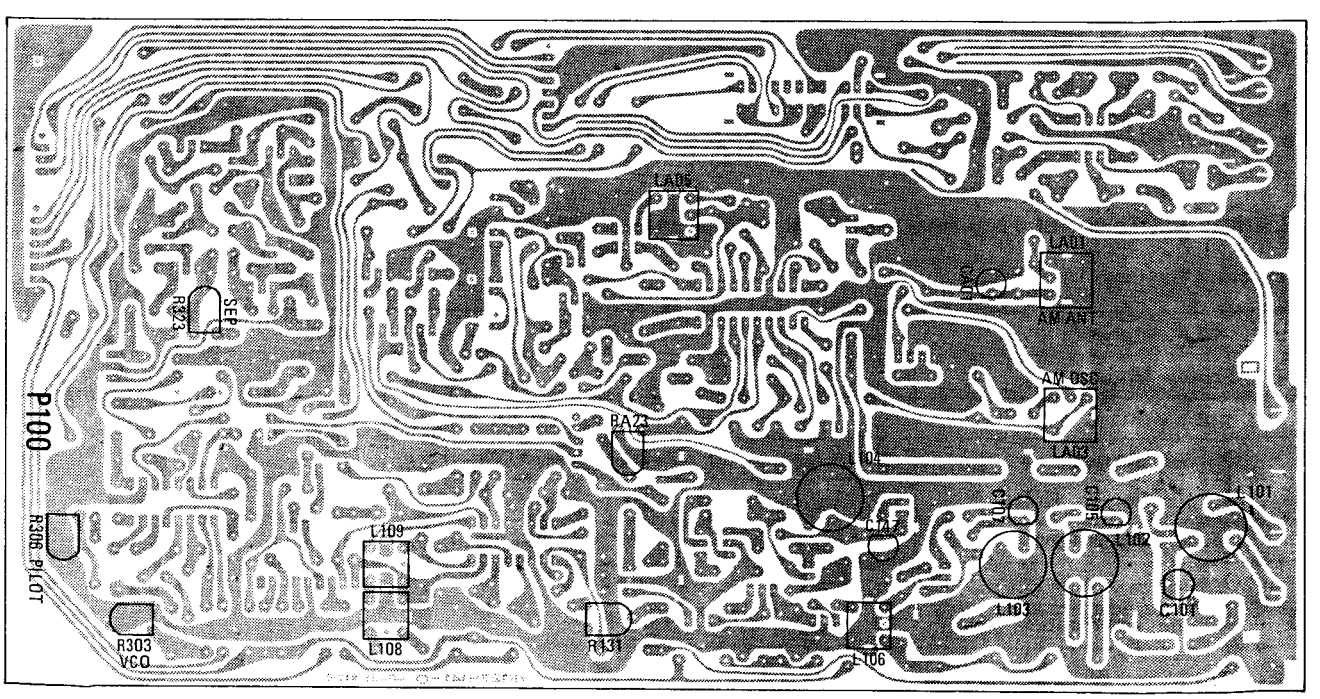


Figure 1.

5. ALIGNMENT POINTS



6. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.

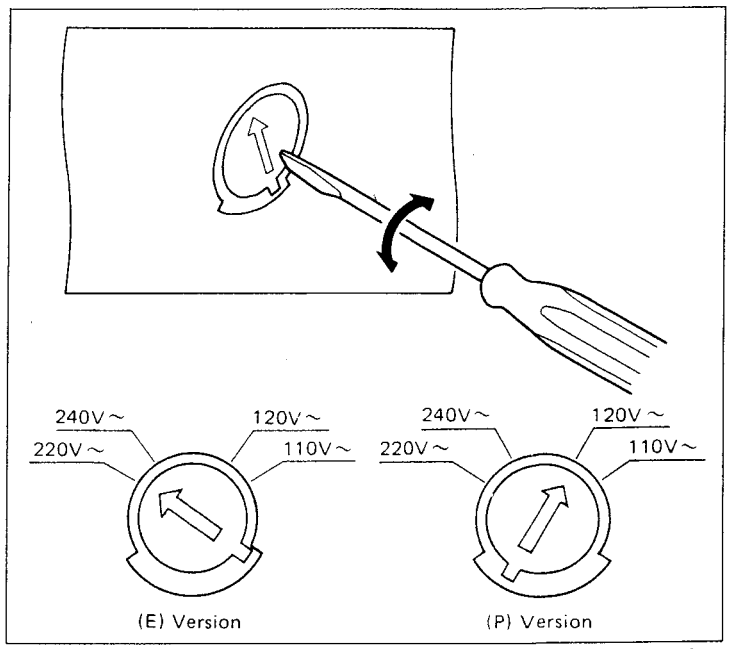


Figure 2. Voltage Conversion

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

FTZ REGULATION
Instruction for the use in the range other than specified in FTZ codes.

Achtung für die Leute, die in dem Gebiet wohnen, wo die FTZ-Bestimmungen vorherrschend sind.

Sollte das Gerät auch für Frequenzen auszerhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangebereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatorspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

7. CIRCUIT DESCRIPTION

The Model SR820DC is an LW/MW/FM digital frequency-synthesized tuner using a PLL frequency synthesizer designed for use in LW/MW/FM tuners in conjunction with a CMOS LSI controller.

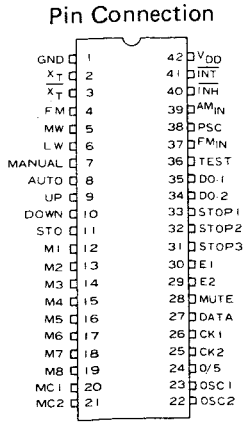
7.1 LW/MW/FM Tuner PLL Frequency Synthesizer and Controller TC9147P (Q508)

- **Maximum Ratings (Ta = 25°C)**

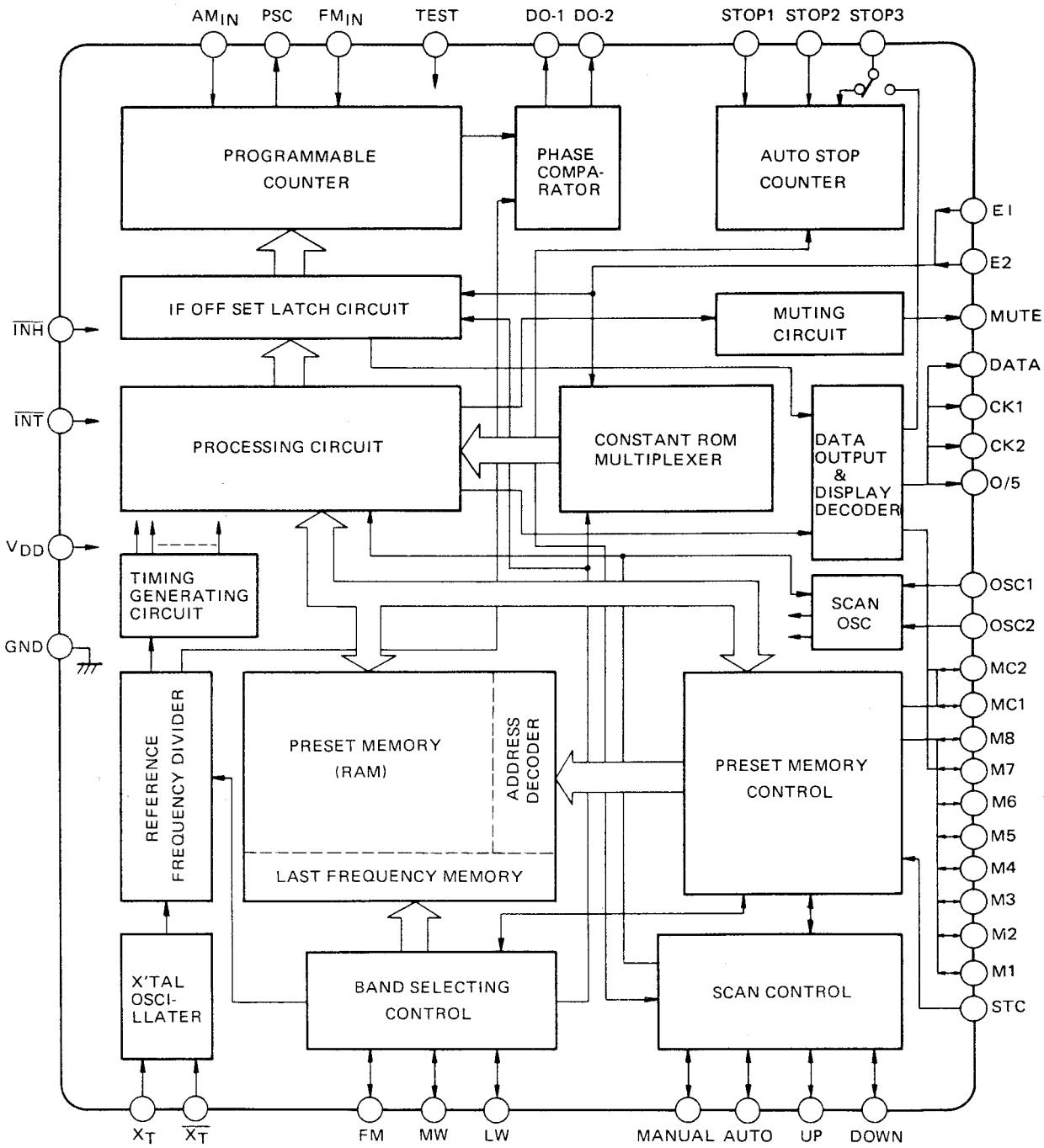
Characteristic	Symbol	Ratings	Unit
Supply Voltage	V_{DD}	0 ~ 6	V
Input Voltage	V_{IN}	−0.3 ~ V_{DD} + 0.3	V
Output Voltage	V_{OUT}	−0.3 ~ V_{DD} + 0.3	V
Output Current (Note)	I_{OUT}	30	mA
Power Dissipation	P_D	800	mW
Operating Temperature	T_{opr}	−30 ~ 75	°C
Storage Temperature	T_{stg}	−55 ~ 125	°C

(Note) Bipolar transistor output current.

Pin Connection



- **Block Diagram**



- **Electrical Characteristics (Unless otherwise specified, Ta = 25°C, V_{DD} = 5.0V)**

Characteristic			Symbol	Test Circuit	Test Condition	Min.	Typ.	Max.	Unit
Supply Voltage			V_{DD}		– *	4.5	5.0	5.5	V
Supply Current			I_{DD}		FM Band, f_{IN} = 4 MHz, No-Load	–	4.0	7.0	mA
Memory Backup Voltage			V_{DD} B		$\overline{INH}$ = 0V *	2.0	~	5.5	V
Inhibit Supply Current			I_{DD} I_1		V_{DD} = 5.0V, $\overline{INH}$ = 0V	–	–	15	μA
			I_{DD} I_2		V_{DD} = 2.0V, $\overline{INH}$ = 0V	–	–	5	
X'tal Oscillation Frequency			f_X'tal		– *	–	7.2	–	MHz
FM_{IN}	Operating Frequency		f_{IN} (FM)		V_{IN} = 0.5 Vp-p, AC coupled *	2.0	~	4.0	MHz
	Input Amplitude		V_{IN} (FM)		f_{IN} = 2.0 ~ 4.0 MHz, AC coupled *	0.5	~	V_{DD}-0.5	Vp-p
AM_{IN}	Operating Frequency		f_{IN} (AM)		V_{IN} = 0.5 Vp-p, AC coupled *	0.5	~	2.2	MHz
	Input Amplitude		V_{IN} (AM)		f_{IN} = 0.5 ~ 2.2 MHz, AC coupled *	0.5	~	V_{DD}-0.5	Vp-p
STOP3 (IF_{IN})	Operating Frequency		f_{IN} (IF)		V_{IN} = 0.5 Vp-p, AC coupled *	400	~	500	kHz
	Input Amplitude		V_{IN} (IF)		f_{IN} = 400 ~ 500 kHz, AC coupled *	0.5	~	V_{DD}-0.5	Vp-p
PSC	FM_{IN} Propagation Delay Time		t_{pd}		C_L = 15pF, V_{IN} = 0.5 Vp-p	–	–	200	nS
	Max. Load Capacity		C_L		– *	–	–	15	pF
$\overline{INH}$ $\overline{INT}$	Input Voltage	"H" Level	V_{IH1}		–	4.2	~	V_{DD}	V
		"L" Level	V_{IL1}		–	0	~	3.0	
Other All Input I/O Terminals	Input Voltage	"H" Level	V_{IH2}		–	3.5	~	V_{DD}	V
		"L" Level	V_{IL2}		–	0	~	1.5	
UP, DOWN, TEST Input Pull-Down Resistance			R_{IN}		–	15	30	60	kΩ
FM_{IN}, AM_{IN}, STOP3 Feedback Resistance			R_f		–	200	400	800	kΩ
F1, 2, STOP1, 2, $\overline{INH}$ $\overline{INT}$ Input Leak Current			I_L		–	–	–	1.0	μA

FM, MW, LW, MANUAL, AUTO, STO (TC9147P: M1 ~ M8)

Output Current	"H" Level	I_{OH}		V_{OH} = 4.0V	15	20	–	mA
	"L" Level	I_{OL}		V_{OL} = 5.0V	70	140	280	μA

OSC, MUTE (TC9147P: DATA, CK1, 2, O/5)

Output Current	"H" Level	I_{OH}		V_{OH} = 4.0V	0.6	1.0	–	mA
	"L" Level	I_{OL}		V_{OL} = 1.0V	0.6	1.0	–	mA

DO-1, DO-2

Output Current	"H" Level	I_{OH}		V_{OH} = 4.0V	0.6	1.0	–	mA
	"L" Level	I_{OL}		V_{OL} = 1.0V	0.6	1.0	–	
Try state Leak Current		I_{TL}		–	–	–	0.1	μA

MC1, MC2

Output Current	"H" Level	I_{OH}		V_{OH} = 4.0V	0.6	1.0	–	mA
	"L" Level	I_{OL}		V_{OL} = 5.0V	70	140	280	μA

Note: Parameters with * mark are guaranteed at all conditions of V_{DD} = 4.5 ~ 5.5V, Ta = 30 ~ 75°C.

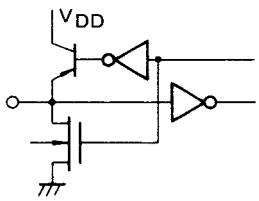
- **Functional Explanation of Terminals**

Pin No.	Symbol	Terminal Name	Function	Remarks
2	X_T	Crystal Oscillator terminal	Connect a 7.2 MHz crystal for reference frequency.	With a built in feed-back resistor.
3	$\overline{X_T}$			
4	FM	FM band designating input	Mutual reset type for selecting FM/MW/LW bands.	A
5	MW	MW band designating input		
6	LW	LW band designating input		
7	MANUAL	Manual tuning mode de-signating input	Mutual reset type for selecting manual and auto search operating modes at time of UP/DOWN tuning.	A
8	AUTO	Auto search tuning mode designating input		
9	UP	Up operating key input	For UP/DOWN tuning with the push key connected.	B
10	DOWN	DOWN operating key input		
11	STO	Memory store command input	The preset memory is set to write state by this input.	A
12 ≀ 19	M1 ≀ M8	Preset memory channel designating input	In combination with MC1 and MC2 inputs, controls write/read of the internal 16 chan-nel preset memory.	A
20	MC1	Memory control input	Used for setting the 16 channel preset memory either to FM/AM (MW+LW) 8 channel fixed system or FM+MW+LW 3 bands 16 channel random system.	C
21	MC2			
22	OSC2	AM oscillator terminal	C.R terminal for oscillator that decides SCAN speed at time of AM search.	–
23	OSC1	FM oscillator terminal	C.R terminal for oscillator that decides SCAN speed at time of FM search.	–
24	O/5	FM 50 kHz output for Europe	50 kHz step output in FM band in European region. Become "H" level at 50 kHz.	D
25	CK2	Receiving frequency data serial outputs	Transmits serial data and timing clock to be sent to Receiving Frequency Digital Display Driver TD6301AP. CK1 output also serves for pee sound transmission.	D
26	CK1			
27	DATA			
28	MUTE	Muting signal output	This terminal is placed at "H" level at time of muting output.	D
29	E2	Region Designating output	For designating Japan, U.S.A. and Europe.	E
30	E1			
31	STOP3	AM-IF signal input	Stops auto search by counting IF450 kHz signal at time of AM.	F
32	STOP2	Auto search stop signal input	When a "H" level signal is input under the state where a "H" level signal is being given to STOP1 Input, stops Auto search.	E
33	STOP1	SCAN speed slow input	When a "H" level signal is input, reduce auto search scan speed to 1/2.	E
34	DO-2	Phase Comparator output	2 try state buffers are transmitted para-llelly from one phase comparator.	G
35	DO-1			
36	TEST	Test Terminal	When a "H" level signal is input, this terminal is placed at test mode.	B
37	FM_{IN}	FM Programmable counter input	Output from prescaler TD6104P is connected.	F
38	PSC	Prescaler control output	Controls selection of 1/30 and 1/32 division of prescaler TD6104P.	D

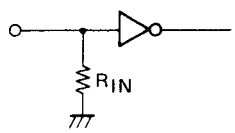
Pin No.	Symbol	Terminal Name	Function	Remarks
39	AM_{IN}	AM programmable counter input	AM local oscillation signal is applied.	F
40	$\overline{INH}$	Inhibit input	Normal operation at "H" level and inhibit status at "L" level.	E
41	$\overline{INT}$	Initialize input	Normal operation at "H" level, and internal state is initialized at "L" level.	E
42	V_{DD}	Power terminals	Apply 5 ± 0.5V. Backup is possible up to 2V.	—
1	GND			

- **Input/Output Equivalent Circuit**

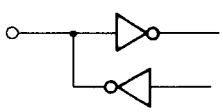
A. Bipolar Transistor LED Driver Built-in I/O.



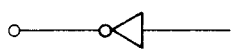
B. C-MOS Input with Pull-Down Resistor



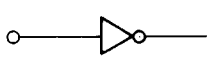
C. C-MOS I/O



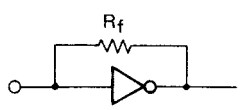
D. C-MOS Output



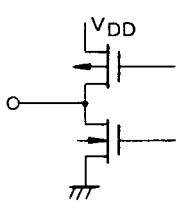
E. C-MOS Input (without Pull-up. Pull-Down Resistor)



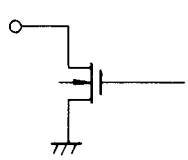
F. With Built-in Input Amplifier



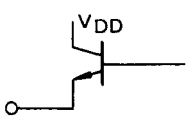
G. Try-state Output



H. Nch MOS LED Driver Output



I. Bipolar Transistor LED Driver Output



7.2 OUTLINE OF FUNCTIONS

- **Receiving Bands**

1) FM/MW/LW bands can be received in European region and FM/AM bands in Japan and U.S.A.
2) AM band for U.S.A. is able to receive up to 1710 kHz, and 9 kHz separation is also available.

Destination	Band Name	Range of Receiving Frequency	IF	Frequency Stop	Reference Frequency	Remarks
Europe	FM	37.50 ~ 108.00 MHz	+10.7 MHz	50 kHz	25 kHz	FM Europe 50 kHz separation
	MW	522 ~ 1611 MHz	+450 kHz	9 kHz	9 kHz	MW 9 kHz separation
	LW	153 ~ 360 kHz	+450 kHz	1 kHz	1 kHz	1 kHz separation
U.S.A.	FM	87.5 ~ 108.0 MHz	+10.7 MHz	100 kHz	25 kHz	FM U.S.A. band
	AM-1	520 ~ 1710 kHz	+450 kHz	10 kHz	10 kHz	MW U.S.A. 10 kHz separation
	AM-2	522 ~ 1710 kHz	+450 kHz	9 kHz	9 kHz	MW U.S.A. 9 kHz separation
Japan	FM	76.0 ~ 90.0 MHz	−10.7 MHz	100 kHz	25 kHz	FM JAPAN band
	AM	522 ~ 1611 kHz	+450 kHz	9 kHz	9 kHz	MW 9 kHz separation

7.3 EXPLANATION OF OPERATION

- **PLL Unit**

1. Reference Frequency and Crystal Oscillator

Oscillation frequency from the crystal oscillator is divided to generate reference frequency of 25 kHz at time of FM, 9 or 10 kHz at MW and 1 kHz at LW.

- Crystal oscillation frequency is 7.2 MHz.
- The crystal oscillator has a built-in self-bias amplifier and can be composed easily only by connecting a crystal and a capacitor. Further, oscillation is stopped under the inhibit state.

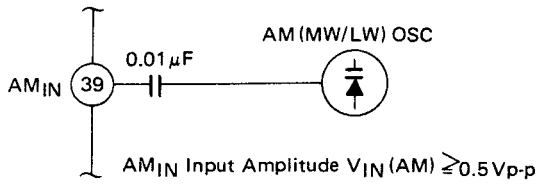
Mode	Reference Frequency	Remarks
FM	25 kHz	at FM band
MW9	9 kHz	at MW 9 kHz separation
MW10	10 kHz	at MW 10 kHz separation
LW	1 kHz	at LW band

2. Programmable Counter

The programmable counters for FM and AM (MW/LW) are in different circuit configuration.

1) FM Programmable Counter
The FM programmable counter is of swallow count type in combination with TD6104P. As a result, reference frequency 25 kHz is obtained and performance is improved.
In this case, the transmission delay time of PSC output for controlling TD6104P is limited. PSC transmission delay time td < 250 ns.

2) AM Programmable Counter
The AM (MW/LW) programmable counter is of direct division type.
The signal transmitted from AM channel can be directly input to AM_{IN} terminal.

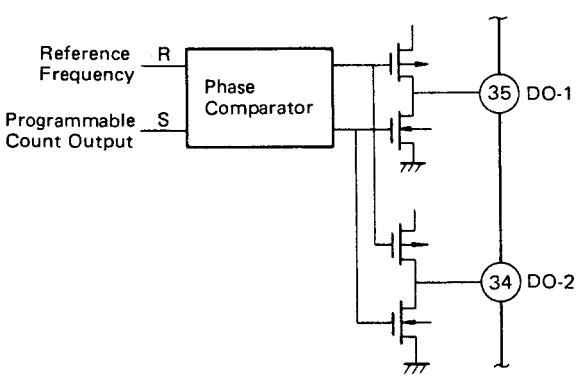


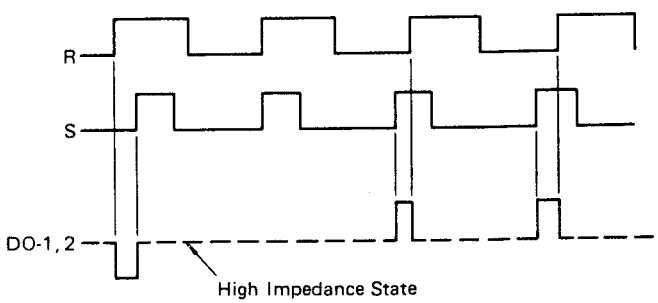
- As both FM_{IN} and AM_{IN} have a built-in input amplifier, a signal shall be applied with a capaciter connected.
- Under the inhibit state and at AM (MW/LW), PSC output is fixed at "L" level.
- IF offset has been provided in advance for frequency division by the programmable counter.

3. Phase Comparator

The phase comparator is a unit that compares phases of reference frequency and programmable counter output and controls V_{CO} through the low pass filter so that thus two signal frequencies and phases agree each other.

- Two tri-state buffers DO-1 and DO-2 are transmitted parallely from one phase comparator. Because of this, two sets of low-pass filter can be used without necessity for switching them.
- Under the inhibit state, both DO-1 and DO-2 outputs are kept at "L" level.





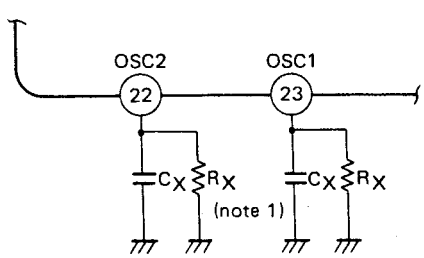
DO Output Timing Chart

• Control Unit

1. Determination of OSC1 and OSC2 Oscillation Frequency

OSC1 and OSC2 are C and R connecting terminals of a single terminal type oscillator. Scan speed at time of manual fast forward and auto search is decided by this frequency.
OSC1 is for FM and OSC2 is for AM and oscillation frequency can be set independently. Further, OSC1 oscillation frequency also seves for deciding manual fast forward pushing time, muting signal transmission time and store state automatic releasing time.
Both OSC1 and OSC2 stop oscillation unless it is required.

Oscillation Frequency $F_{OSC} = \dfrac{1}{0.7\, C_X R_X}$ (Hz) (Note 2)



(Note 1) R_X = 10k ~ 100kΩ

Scan Speed (Fast FWD. Auto Search)	At FM	f_S (FM) = 1/2 f_{OSC1} (step/sec)	(One Example) When f_{OSC} = 20 Hz	10 (step/sec)
	At AM (MW/LW)	f_S (AM) = 1/2 f_{OSC2} (step/sec)		10 (step/sec)
Manual Fast FWD Push Time		T_{SCAN} = 14/f_{OSC1} (sec)		0.7 (sec)
Store State Auto Release Time		T_{STO} = 224/f_{OSC1} (sec)		11 (sec)
Muting Signal Output Time	Short	T_{MUTE} (S) = 7/f_{OSC1} (sec)		0.35 (sec)
	Long	T_{MUTE} (L) = 15/f_{OSC1} (sec)		0.75 (sec)

(Note) f_{OSC1}: OSC1 Oscillation Frequency, f_{OSC2}: OSC2 Oscillation Frequency

2. Designation of Destination by Japan, U.S.A. and Europe

Regional designation by Japan, U.S.A. and Europe is made by E1 and E2 terminals.

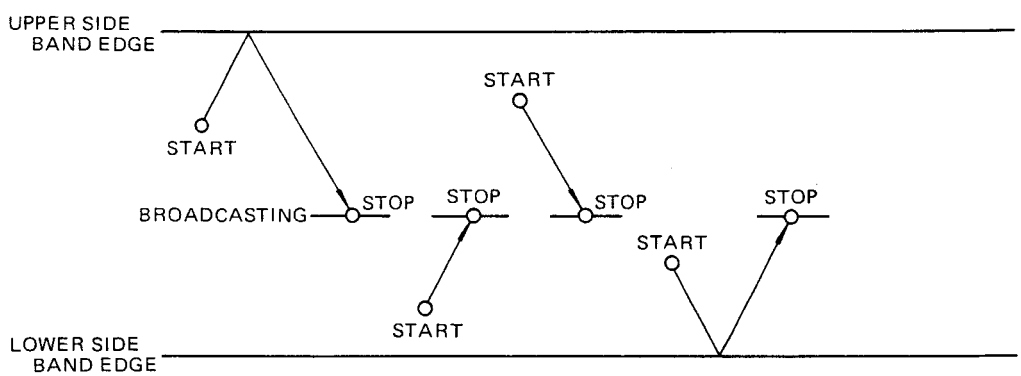
E1	E2	Destination	
0	0	Japan	
1	0	Europe	
0	1	U.S.A.	MW 9 kHz separation
1	1		MW 10 kHz separation

- For U.S.A. region designation, AM (MW) band 9 kHz/10 kHz separation can be selected.

(a) Method of auto stop signal input during normal auto search.
Input the auto stop signal to both STOP1 and STOP2 terminal, or with STOP2 terminal fixed at "H" level, apply the auto stop signal to STOP1 terminal.

(b) When ARI or Stereo Station only is searched.
Apply the normal auto stop signal to STOP1 terminal. Apply ARI or Stereo Station indentification signal to STOP2 terminal ("H" level shows ARI of Stereo Station).

(c) When Auto Stops Signal is received (when there is a broadcasting station), Scan is stopped.
- The auto search tuning scan system is in triangular waveform shape.
- When the [DOWN] key is pushed during the scanning in the up direction, the scanning is changed in the down direction. Similarly, when the [UP] key is pushed during the scanning in the down direction, the scanning is reversed in the up direction.



- The auto search scan speed is same as the fast forward scan speed f_S (FM) at FM, f_S (AM) at AM (MW/LW).
The auto search tuning is released when the following operation is mode:
When the operating mode is changed to the manual scan mode.
When a receiving band is changed.
When the preset memory is read.
When the status is changed to the inhibit state.
- When the [UP] or [DOWN] key is kept pushed during the auto search tuning, no auto stop signal is accepted. In addition, the band edge is reached, the auto search tuning is stopped.

3. Auto Stop

1) STOP1, STOP2 Terminals

- When a "H" level signal is applied to STOP1 input, auto search scan speed is reduced to 1/2 (Slow mode).
- When a "H" level signal is applied to STOP2 terminal under the slow mode (STOP1 = at "H" level), the auto search tuning is stopped.

  Through the above operations, it is possible to stop the auto search after searching ARI or Stereo station only.

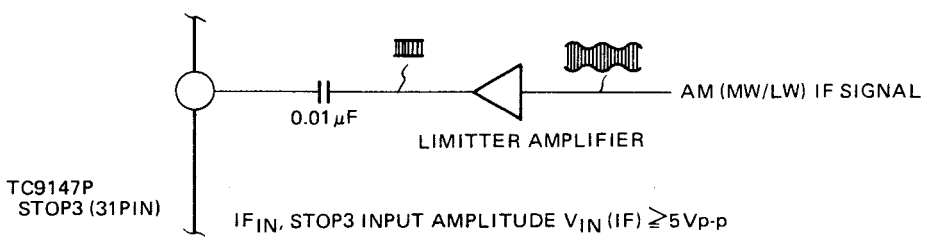
2) STOP3 Terminal

This terminal is the input of IF signal (=450 kHz) at time of AM (MW/LW). When this input frequency enters the specified range against 450 kHz, auto search tuning stops.

- As the input amplifier has been built in, apply IF signal with the capacitor connected.
- IF_{IN}, STOP3 input is not accepted at time of FM.
- Range of Auto Tuning stopping.

MW Band	450 kHz ± about 3 kHz
LW Band	450 kHz ± about 600 Hz

- Since IF signal has been amplitude modulated, it is adequate to apply it to IF_{IN}, STOP3 terminal through the limitter amplifier.



4. Memory Function

This is the function for tuning a desired channel by one-touch by constantly storing optional frequency data.

The terminals concerned with the memory are STO, M1 ~ M8, MC1, and MC2, a table of 11 terminals. Inputs are all "H" level active.

- STO and M1 ~ M8 terminal are of I/O type with a built-in bipolar transistor status display driver.
- MC1 and MC2 terminals control the built-in 16 channel preset memories as shown in the following table.

MC1	MC2	Allocation of 16 channel preset memories	Memory type
1	0	Memory addresses for 1 ~ 8 channels are assigned by M1 ~ M8 terminals.	16 channel random memory system.
0	1	Memory addresses for 9 ~ 16 channels are assigned by M1 ~ M8 terminals.	
1	1	No input is accepted. Memory allocation holds the previous status.	
0	0	Automatically allocated to 8 FM channels and 8 AM channels. Further, at time of AM, MW and LW band random system.	8 FM/AM channel fixed memory system.

- MC1 and MC2 Inputs are of mutual resetting I/O type with an internal latch circuit.

  (Note) MC1 and MC2 terminals are of C-MOS I/O type and has no built-in driver.

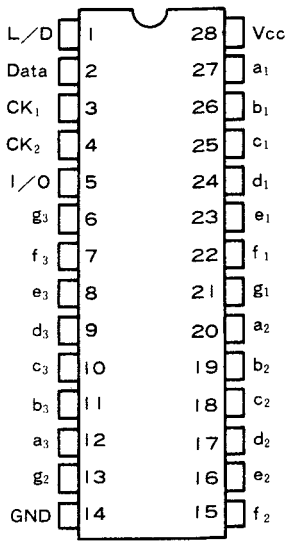
5. Receiving Frequency Display

The frequency display of TC9147P is explained here. The linear display of TC9146AP will be separately explained. Receiving frequency is displayed using the external static display driver TC6301AP.

- **Maximum Ratings (Ta = 25°C)**

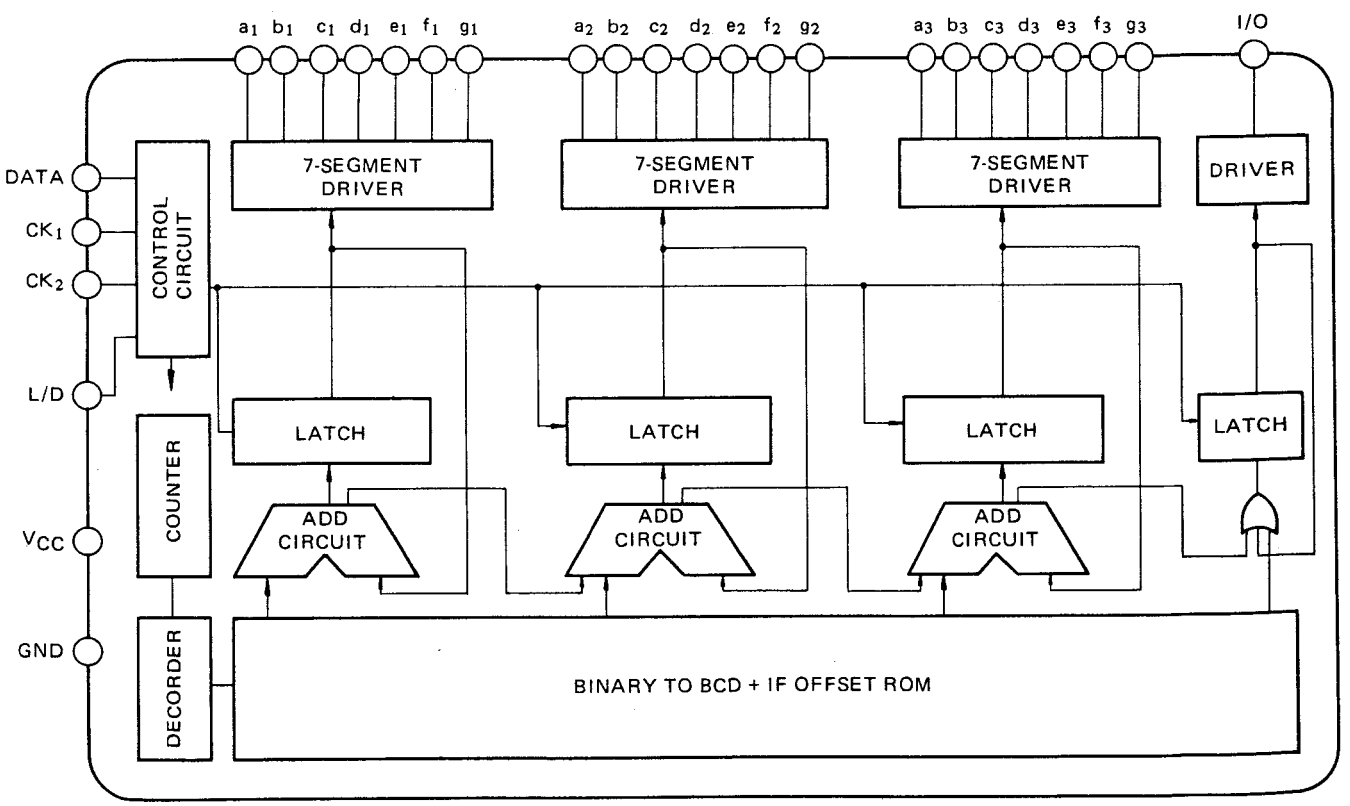
Characteristic	Symbol	Tating	Unit
Supply Voltage	V_{CC}	8	V
Input Voltage	V_{IN}	$-0.3 \sim V_{CC}+0.3$	V
Output Current	I_{OL} (MAX)	20	mA
Output Voltage	V_{OH} (MAX)	20	V
Power Dissipation	P_D	1.0	W
Operating Temperature	Topr	$-30 \sim 75$	°C
Storage Temperature	Tstg	$-55 \sim 150$	°C

Pin Connections



Q503

- **Block Diagram**



- **Pin Description**

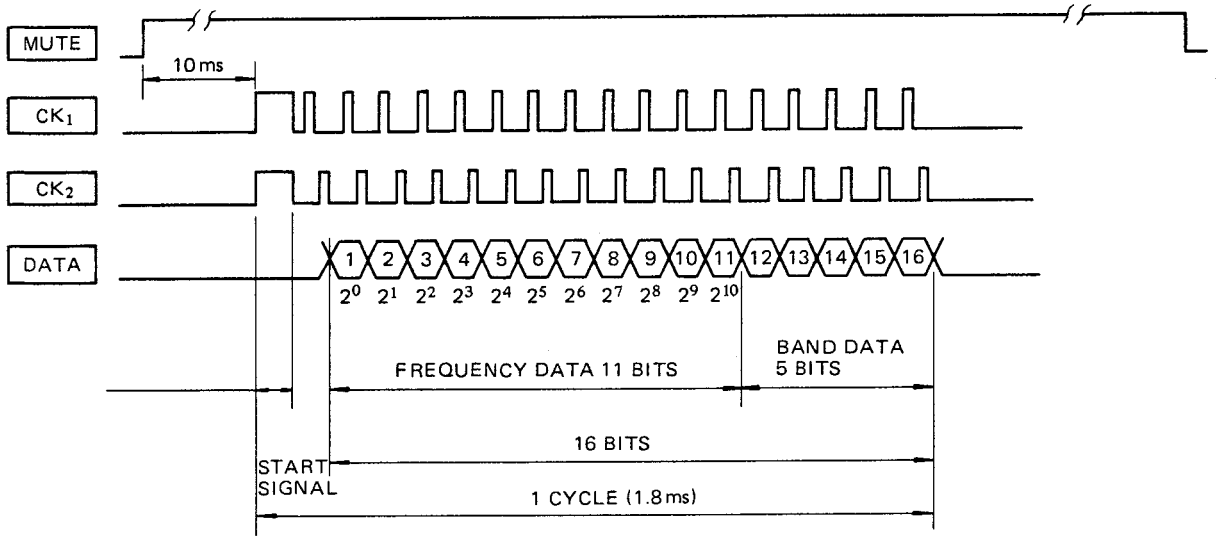
Pin No.	Name	Functional Description	Remarks
1	L/D	Output state switching signal input. Signal input for switching output state by displays (LED, FL and LCD).	
2	Data	Receiving frequency data signal input. Signal is input in serial from system controller.	
3, 4	CK_1, CK_2	Timing clock signal input.	
5	1/0	Segment drive signal output. For FM the digit of 100 MHz and for AM that of 1000 kHz are displayed respectively. Since both FM and AM are 1 or 0, one pin only is sufficient for output.	With built-intransistors of high resisting voltage and large current flow.
6 ~ 12	$a_3 \sim g_3$	7-segment drive signal output. Digits of 10 MHz for FM and those of 100 kHz for AM are displayed, respectively	With built-intransistors of high resisting voltage and large current flow.
13, 15~20	$a_2 \sim g_2$	7-segment drive signal output. Digits of 1 MHz for FM and those of 10 kHz for AM and displayed, respectively.	With built-intransistors of high resisting voltage and large current flow.
21 ~ 27	$a_1 \sim g_1$	7-segment drive signal output. Digits of 100 kHz for AM and those of 1 kHz for AM are displayed, respectively.	With built-intransistors of high resisting voltage and large current flow.
14, 28	V_{CC}, GND	Power supply GND.	

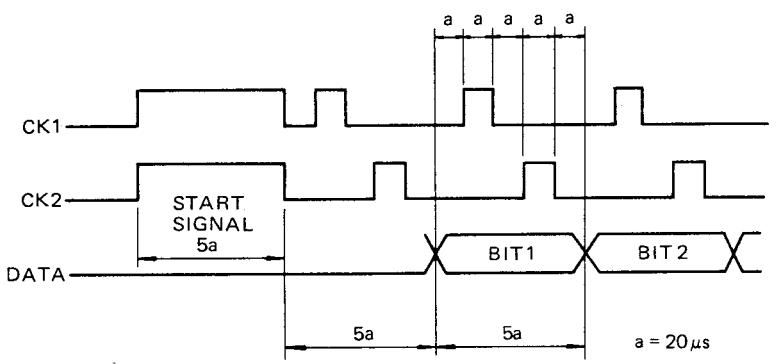
- **Electrical Characteristics (Unless otherwise specified, V_{CC} = 5V, Ta = 25°C)**

Characteristic		Symbol	Test Circuit	Test Condition	Min.	Typ.	Max.	Unit
Operating Supply Voltage Range		V_{CC}		Ta = −30 ~ 75°C	4.5	5.0	5.5	V
Operating Supply Current		I_{CC}		No load	–	–	16	mA
Input Voltage	"H" Level	V_{IH}		Data, CK_1, CK_2, L/D	4.0	–	–	V
	"L" Level	V_{IH}		Data, CK_1, CK_2, L/D	–	–	1.0	V
Input Current	"H" Level	I_{IH}		Data, V_{IH} = 5V	–	–	0.6	mA
	"L" Level	I_{IL}		Data, V_{IL} = 0V	−0.1	–	–	mA
Output Current		I_O		$a_1 \sim g_1$, $a_2 \sim g_2$, $a_3 \sim g_3$, 1/0	15	–	–	mA
Output Saturation Voltage		V_{CE} (sat)		$a_1 \sim g_1$, $a_2 \sim g_2$, $a_3 \sim g_3$, 1/0, I_{OL} = 15 mA	–	–	1.2	V
Timing Input Operating Frequency		f_{opr}		Data, CK_1, CK_2	–	–	120	kHz

Receiving frequency data in serially transfered to TD6301AP through DATA, CK1 and CK2 terminals.

- The Output timings of DATA, CK1 and CK2 terminal are shown in the following diagram.





(1) DATA Output

Frequency data and band data are serially transmitted in 16 bits. 1 ~ 11 bits are frequency data and 12 ~ 16 bits are band data.

- Frequency Data
  This is a value of receiving frequency minus the lower band edge of that band. This value is transmitted in binary 11 bits.
- Band data are as shown in the table.

bit 12	13	14	15	16	Band
1	0	0	0	0	LW Band
0	1	0	0	0	FM JAPAN Band
0	0	1	0	0	FM U.S.A./Europe Band
0	0	0	1	0	MW 9 kHz separation
0	0	0	0	1	MW 10 kHz separation

(2) CK1, CK2 Output

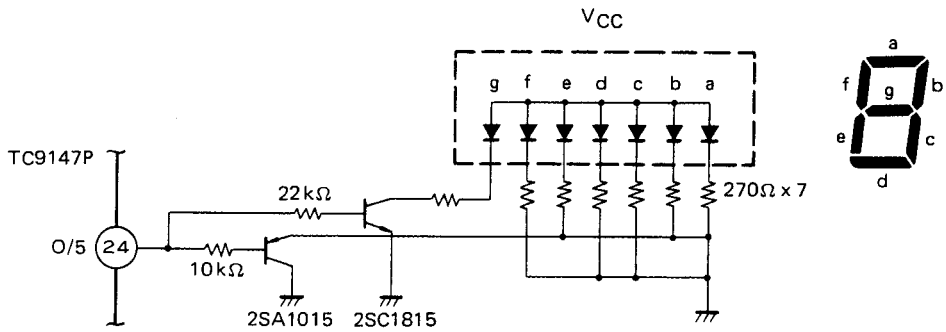
These outputs are timing clocks for reading DATA output by TD6301AP. DATA, CK1 and CK2 outputs are transmitted by are cycle only in the following cases:

- When the inhibit state is released.
- When a band is changed.
- When the preset memory is read.
- At time of UP/DOWN tuning.

(3) 50 kHz Frequency Display in FM Band for Europe
The 50 kHz display in FM Band for Europe is made at O/5 output.

- At time of 50 kHz, output will become "H" level. When other areas are assigned or at time of MW and LW bands, output is fixed at "L" level.

Example of Display by 7-Segment LED.

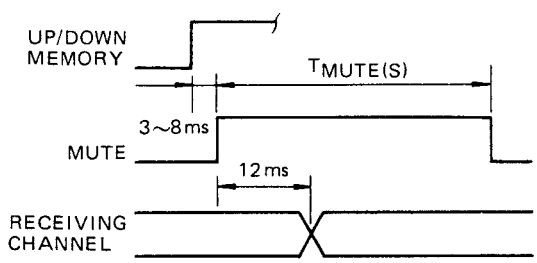


6. Muting Output

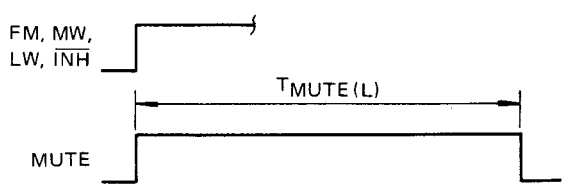
In order to prevent generation of abnormal sound at time of key operation, muting signal is transmitted from the MUTE terminal at the timings shown in the following diagrams.

- Muting output time at time of restoration from the inhibit state or band switching is extended to about 2 times of that in normal cases. (This is also true when a band is changed according to the memory read in the random memory system.)
- When the multiple band input keys are pushed or during the fast forwarding or auto search tuning, muting output is kept at "H" level.
- The receiving channel (division of the programmable counter) changes 12 mS later after muting signal is transmitted. This will provide a margin to muting application time.

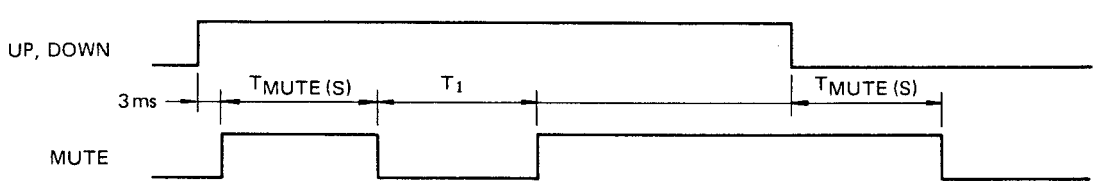
(1) Manual UP/DOWN, Memory Read



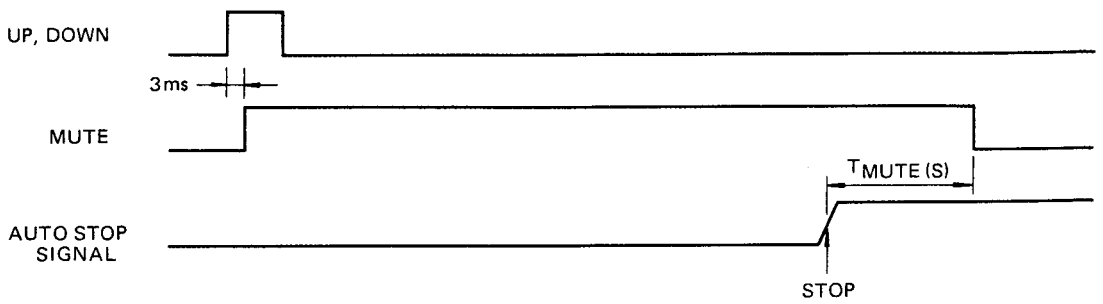
(2) Restoration from Inhibit status, Band Switching



(3) Manual Fast Forward



(4) Auto Search Tuning



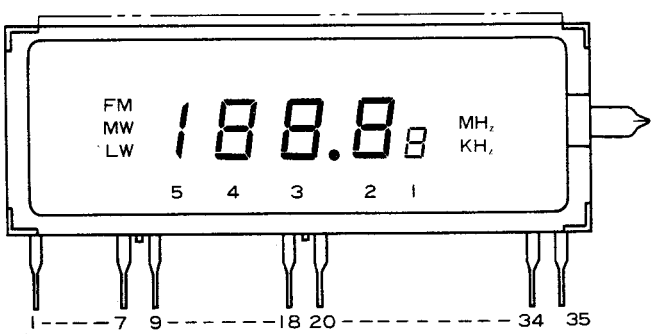
$$T_{MUTE(L)} = \frac{15}{f_{OSC1}} \text{ (sec)} \quad (= 750\,\text{ms})$$

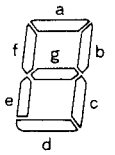
$$T_{MUTE(S)} = T_1 = \frac{7}{f_{OSC1}} \text{ (sec)} \quad (= 350\,\text{ms}) \quad (\text{at } f_{OSC1} = 20\,\text{Hz})$$

- Electrode Connection

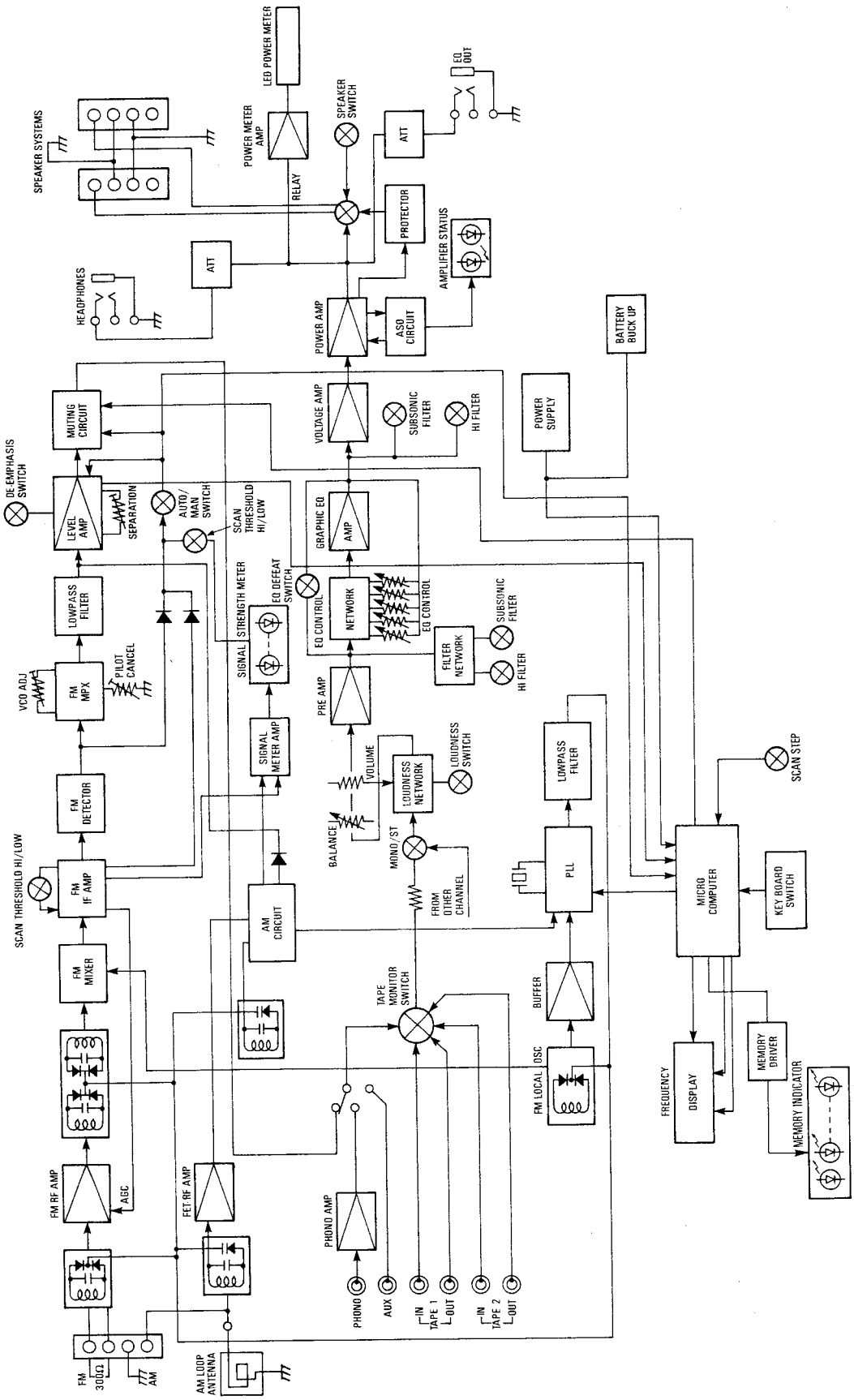
PIN No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Electrode Connection	W/O LW	F	b_5 c_5	a_4	f_4	e_4	d_4	c_4	IC	g_4	b_4	a_3	f_3	e_3	d_3	c_3	g_3	b_3	a_2
	W/ LW	F	b_5 c_5	a_4	f_4	e_4	d_4	c_4	IC	g_4	b_4	a_3	f_3	e_3	d_3	c_3	g_3	b_3	a_2

PIN No.		19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Electrode Connection	W/O LW	IC	f_2	e_2	d_2	c_2	g_2	b_2	b_1 e_1	g_1	kHz	MHz	FM Dp	AM	a_1 d_1 c_1 f_1	G	G	F
	W/ LW	IC	f_2	e_2	d_2	c_2	g_2	b_2	b_1 e_1	g_1	kHz	MHz	FM Dp a_1 c_1 d_1 f_1	MW	LW	G	G	F



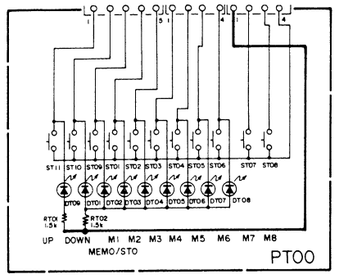


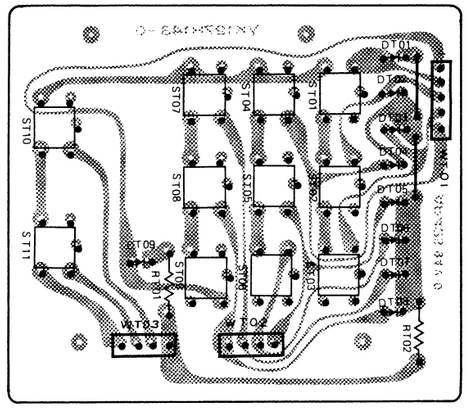
8. BLOCK DIAGRAM



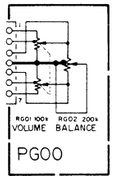
9. SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS

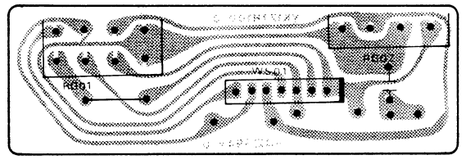
9.1 Key Board Assembly (PT00) Schematic Diagram and Component Locations



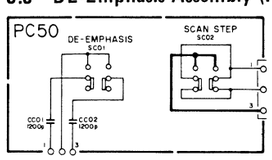


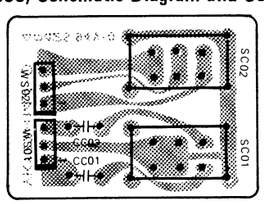
9.2 Volume/Balance Assembly (PG00) Schematic Diagram and Component Locations



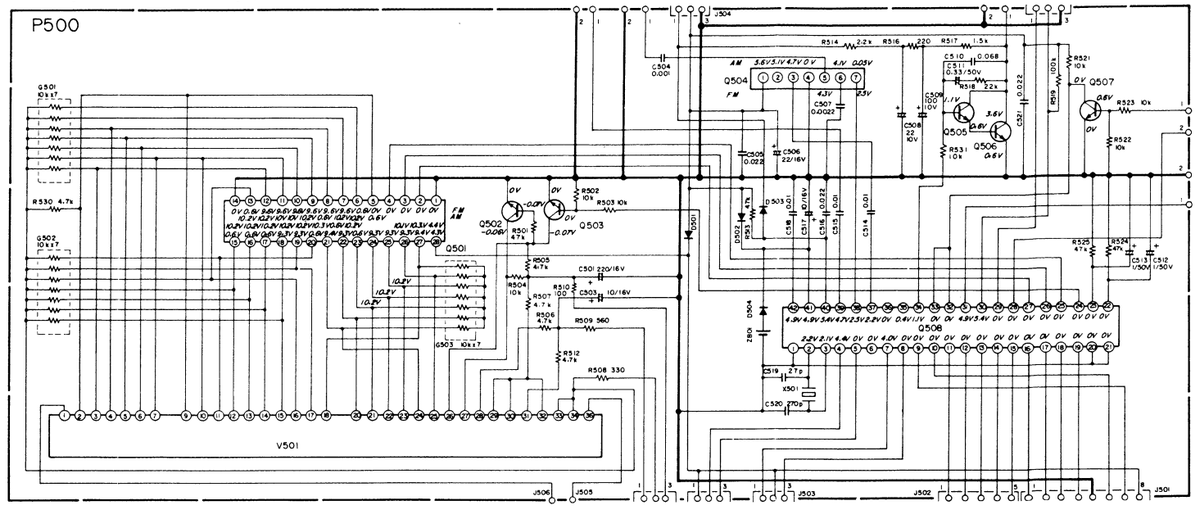


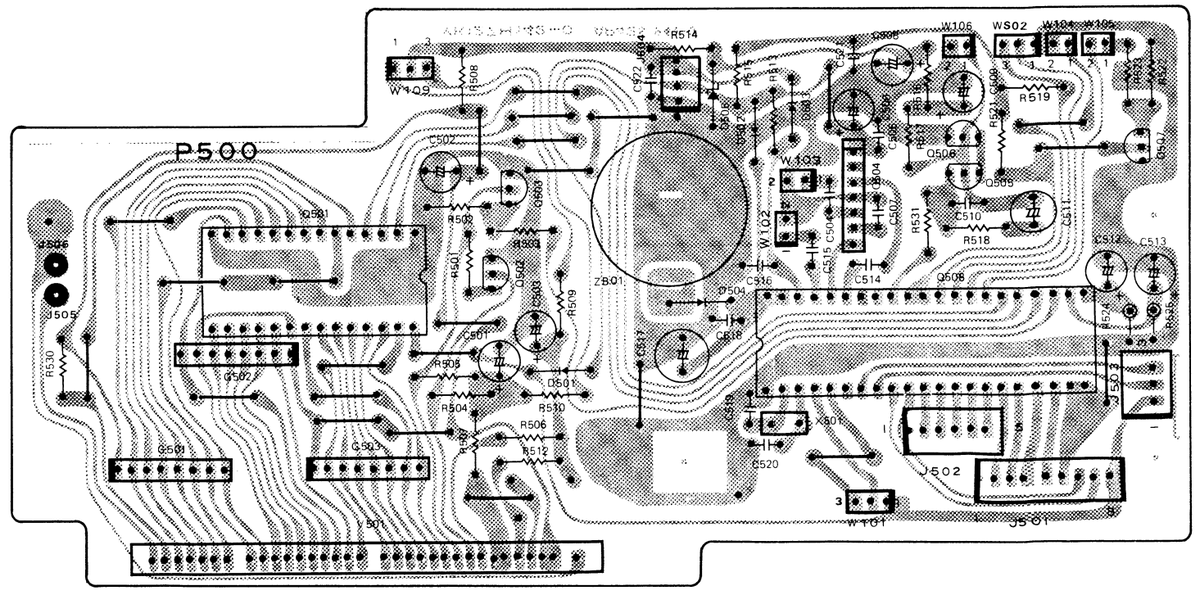
9.3 DE-Emphasis Assembly (PC50) Schematic Diagram and Component Locations



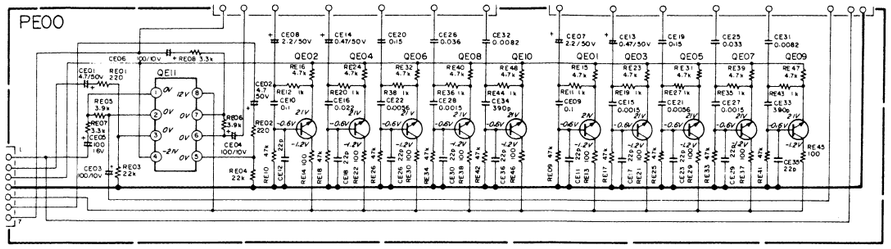


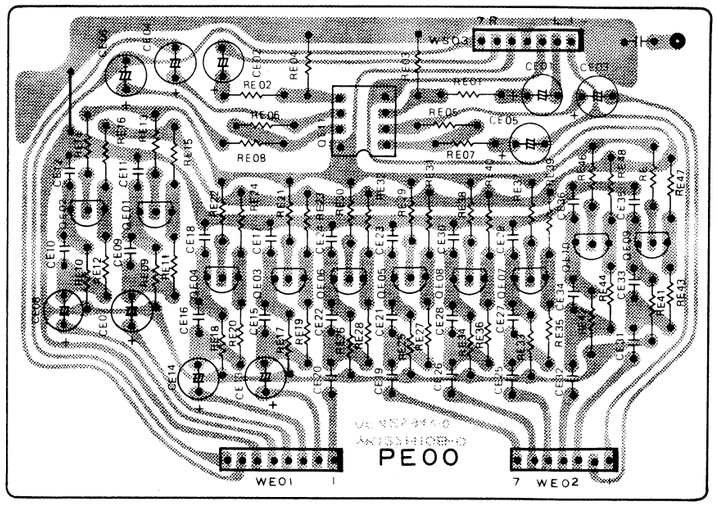
9.4 Synthesizer Assembly (P500) Schematic Diagram and Component Locations



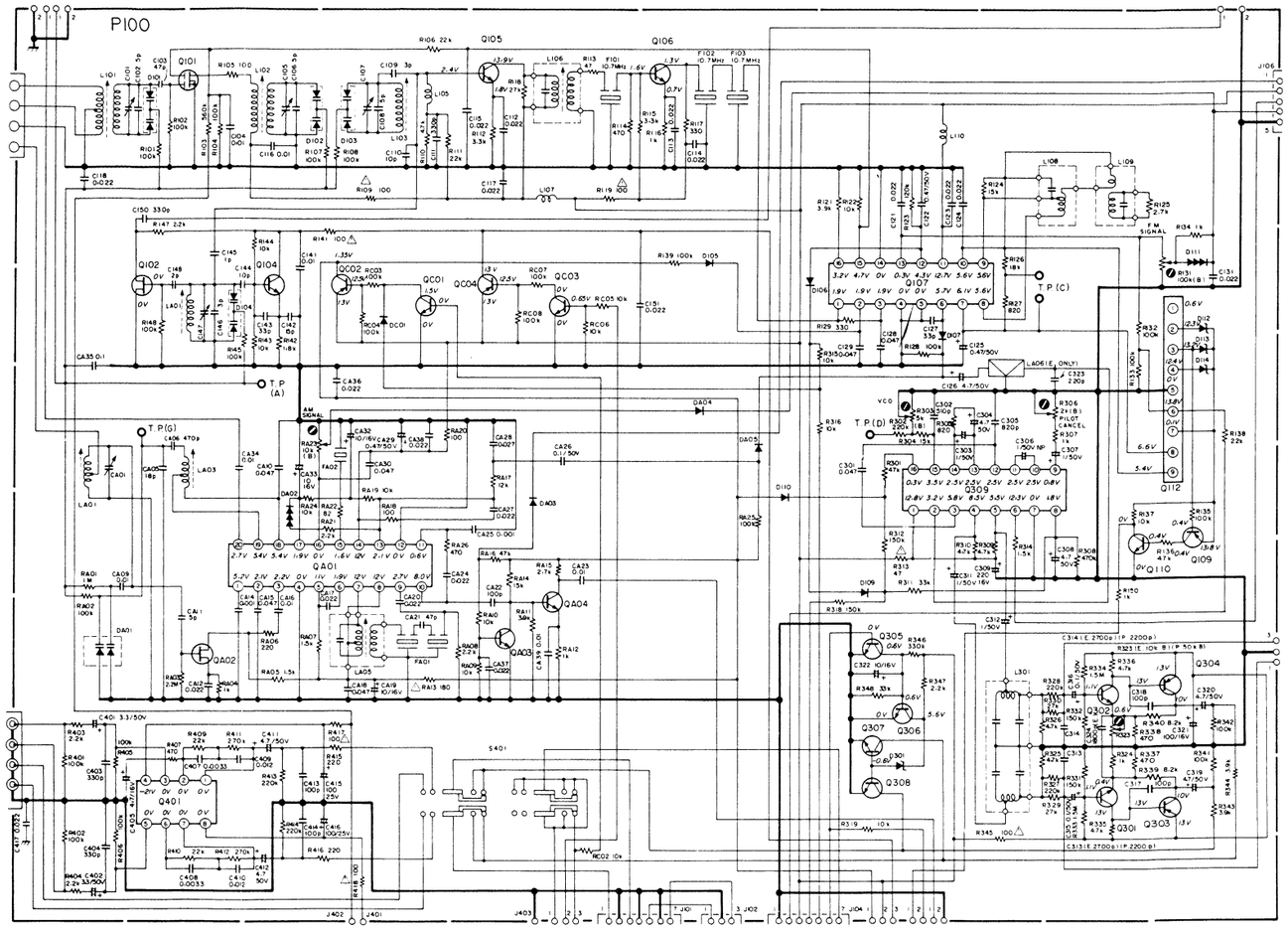


9.5 EQ Amp. Assembly (PE00) Schematic Diagram and Component Locations

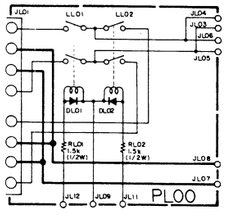


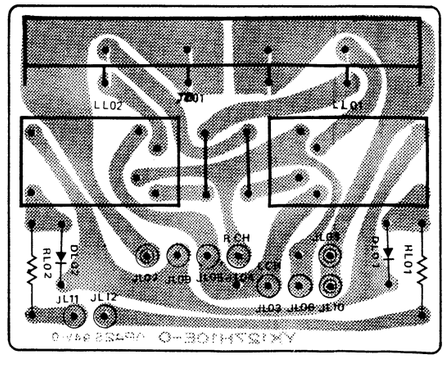


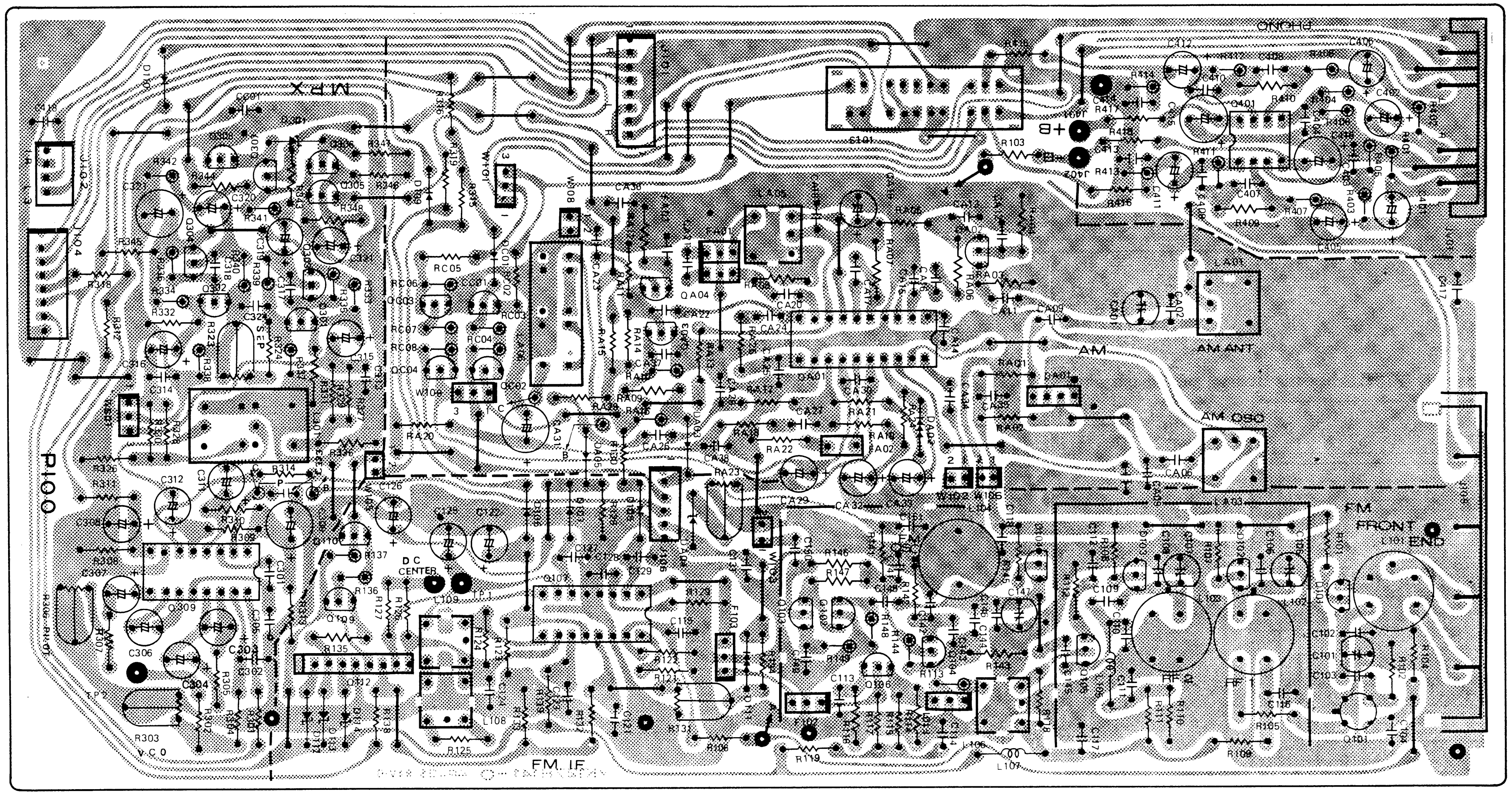
9.7 Tuner/Phono Assembly (P100) Schematic Diagram and Component Locations



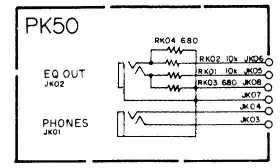
9.6 Speaker Protector Assembly (PL00) Schematic Diagram and Component Locations

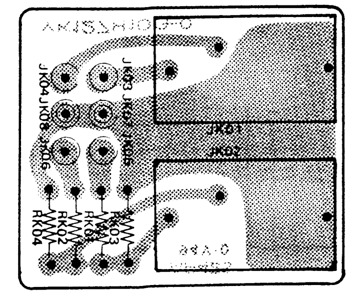




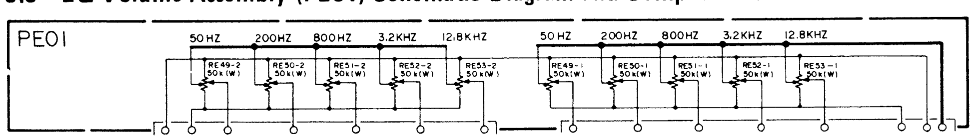


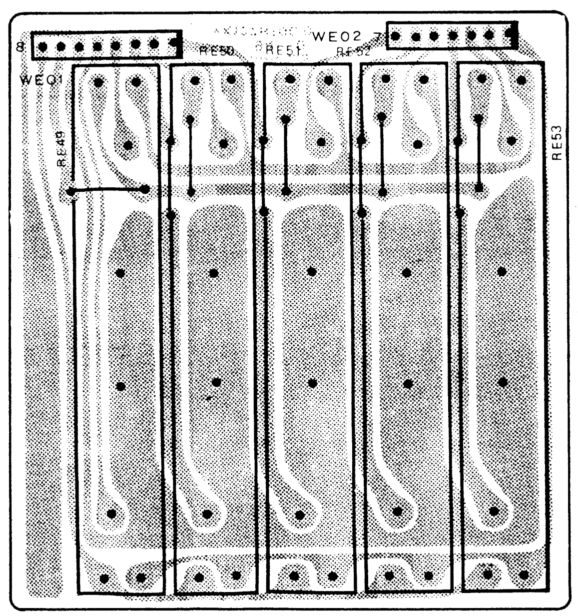
9.9 Headphone/EQ Out Assembly (PK50) Schematic Diagram and Component Locations



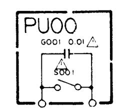


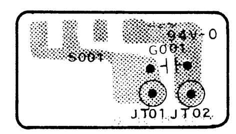
9.8 EQ Volume Assembly (PE01) Schematic Diagram and Component Locations



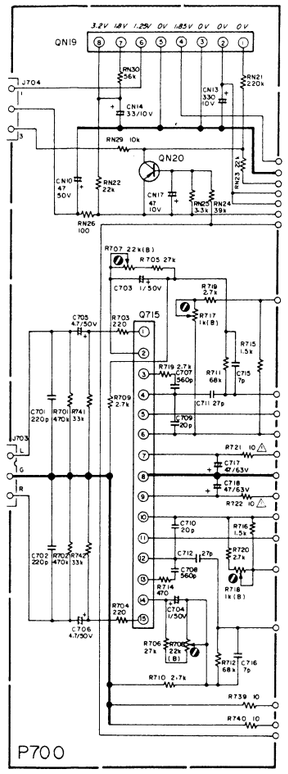


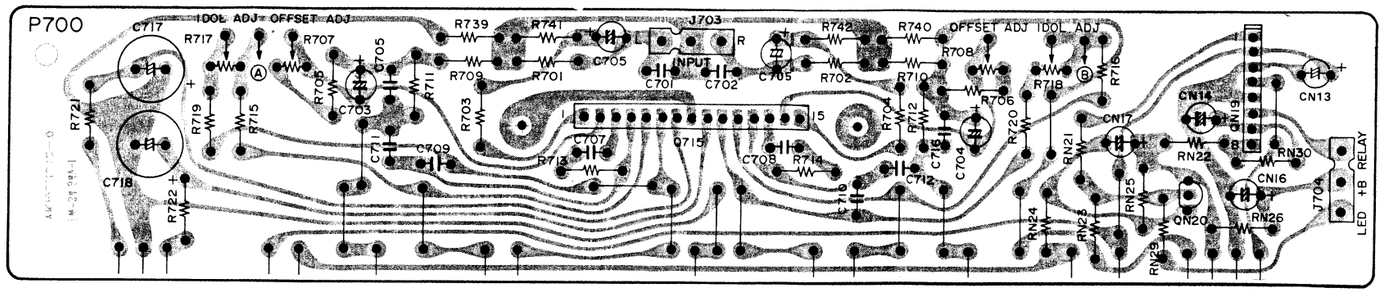
9.10 Power Switch Assembly (PU00) Schematic Diagram and Component Locations



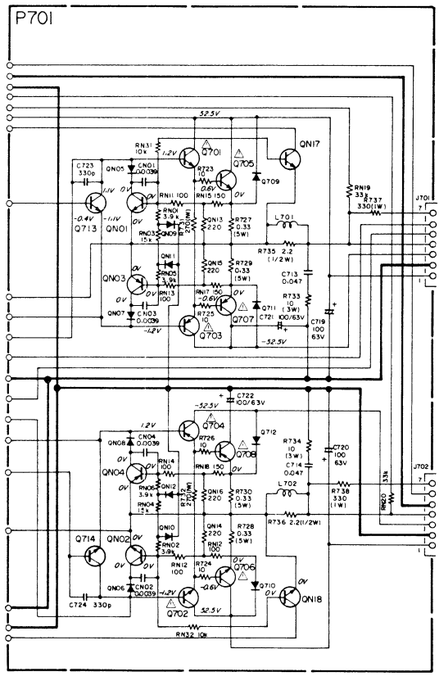


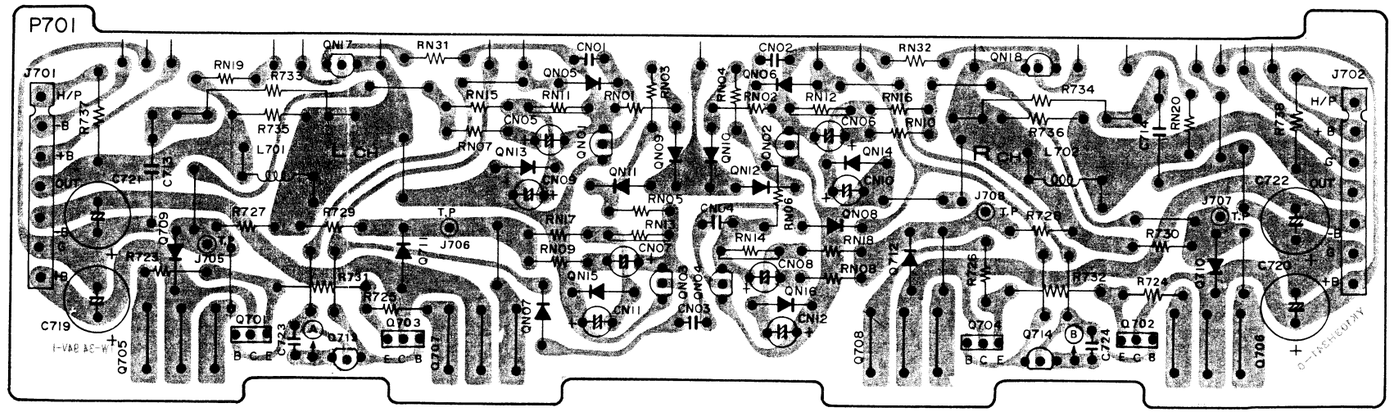
9.11 Main Amp. Assembly (P700) Schematic Diagram and Component Locations



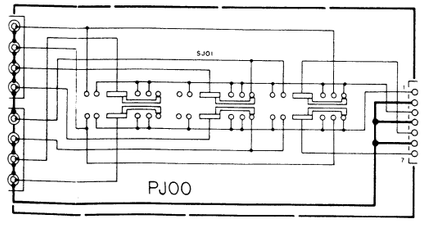


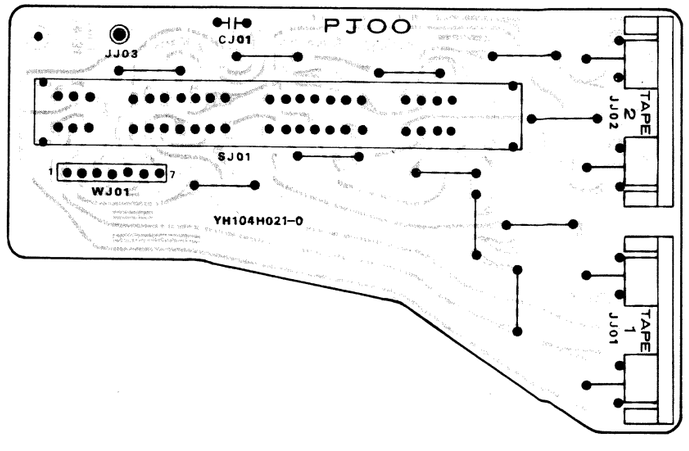
9.12 Main Amp. Assembly (P701) Schematic Diagram and Component Locations



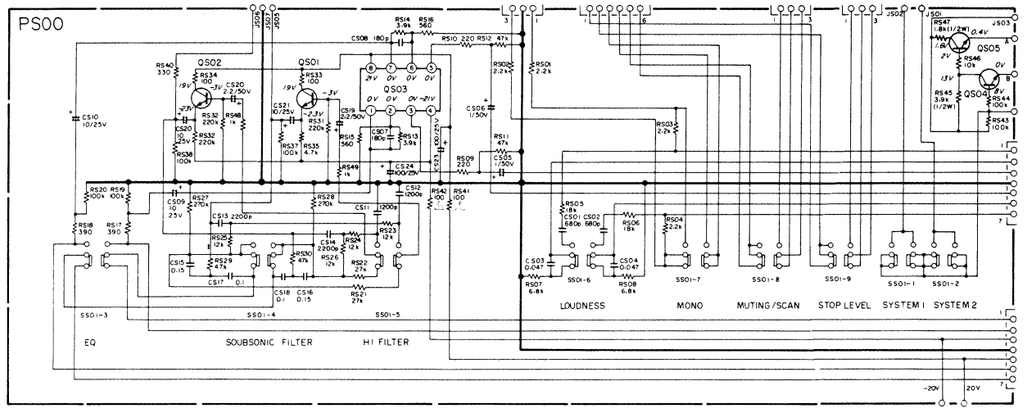


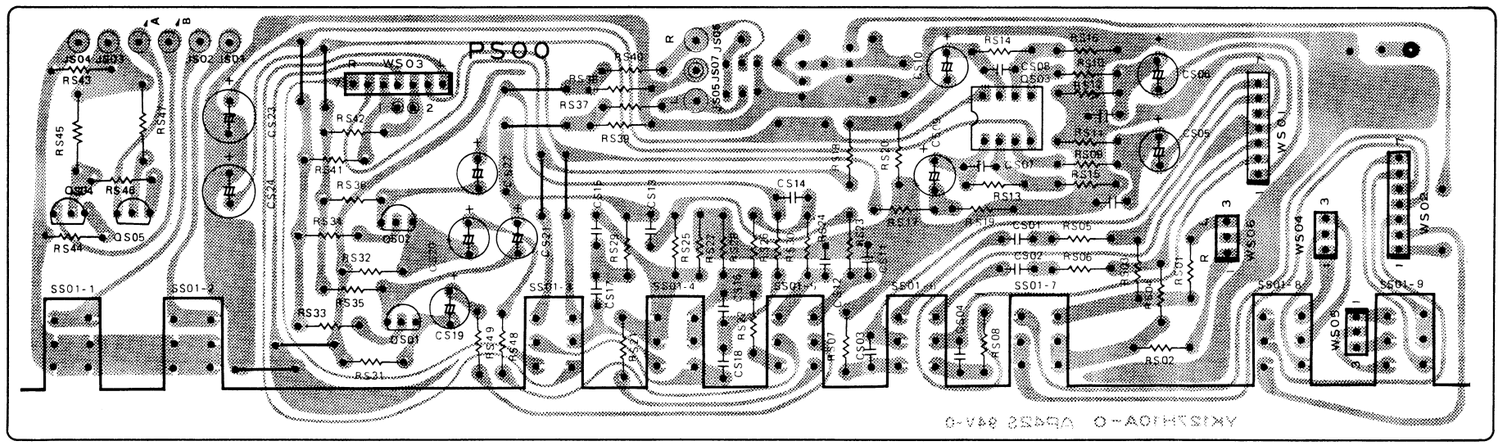
9.13 Tape Monitor Switch Assembly (PJ00) Schematic Diagram and Component Locations



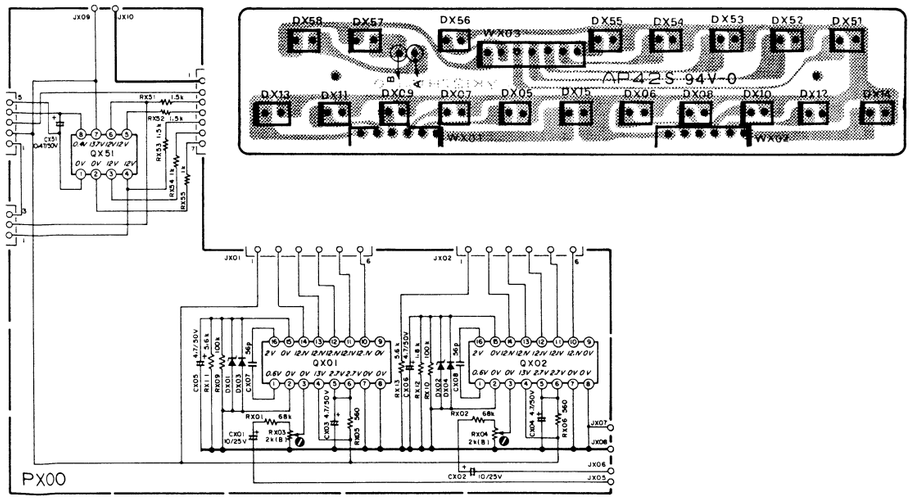


9.14 Switch Assembly (PS00) Schematic Diagram and Component Locations

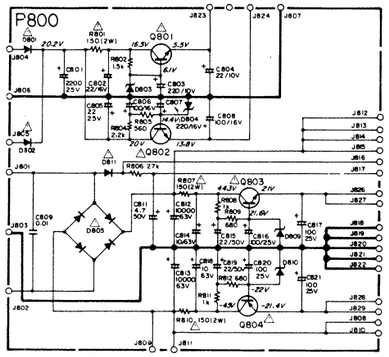


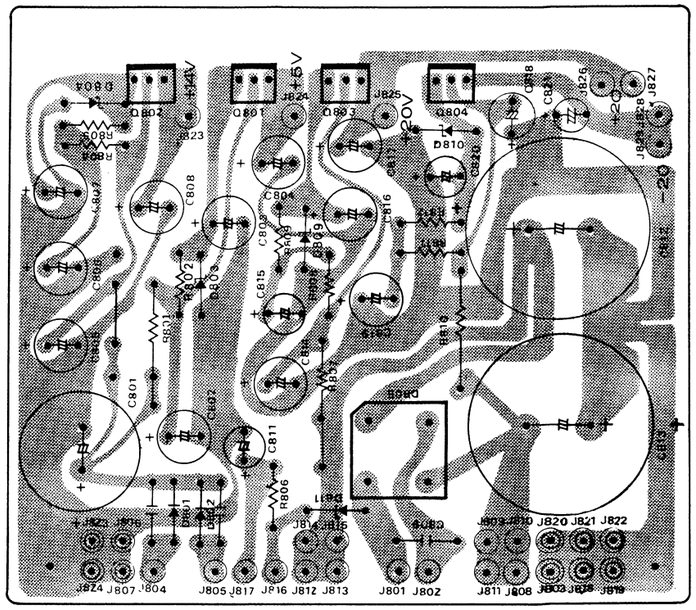


9.15 Power Meter Assembly (PX00) Schematic Diagram and Component Locations

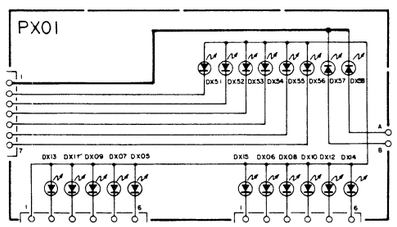


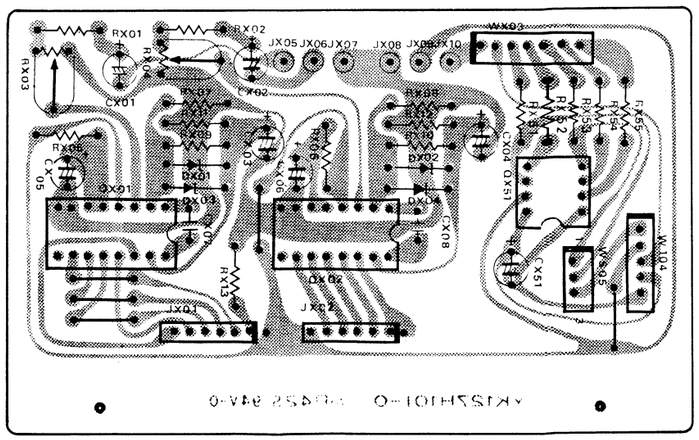
9.16 Power Supply Assembly (P800) Schematic Diagram and Component Locations





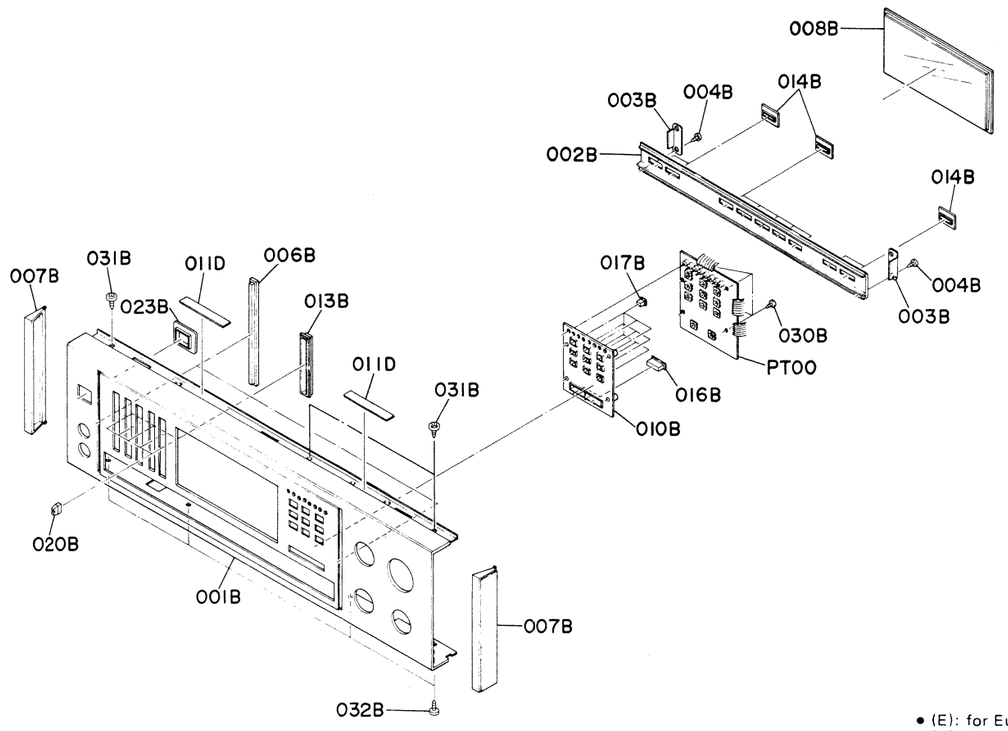
9.17 Power LED Assembly (PX01) Schematic Diagram and Component Locations





10. EXPLODED VIEW AND PARTS LIST

[C01-99] Front Panel

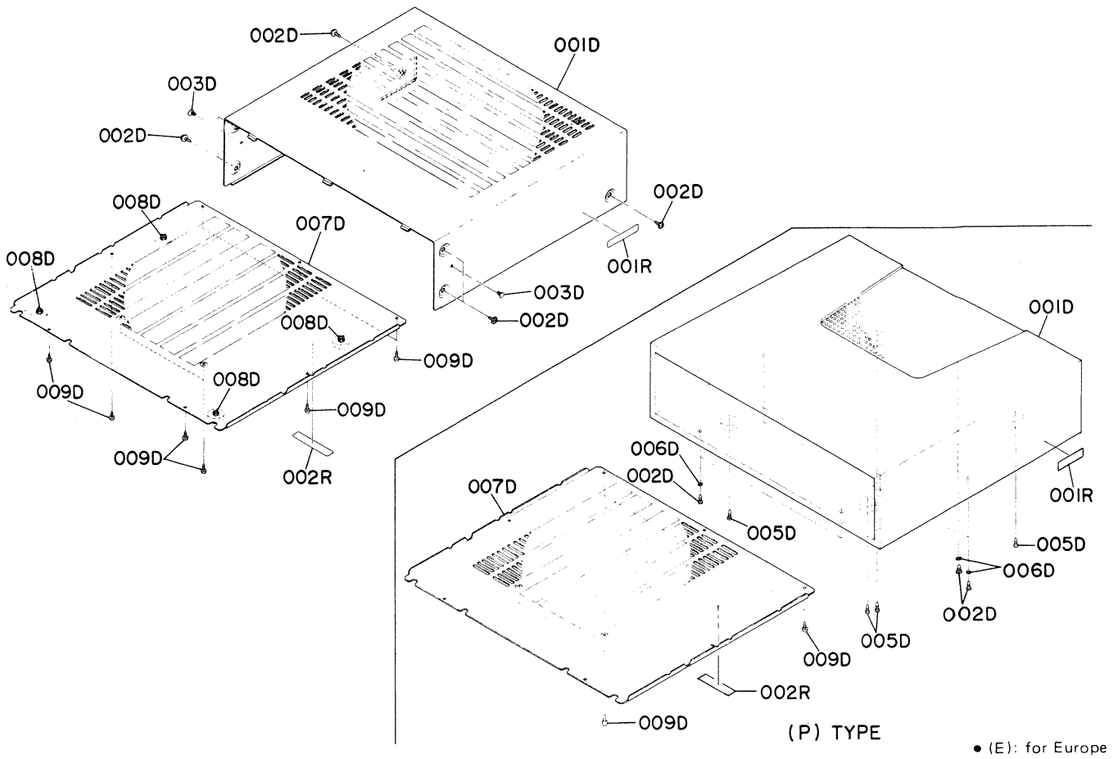


• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
A	1		127H063400	Front Panel Assembly
A1		1	127H063410	Front Panel Assembly
001B	1	1	127H063010	Escutcheon, Front Panel
002B	1	1	104H063050	Escutcheon, Push SW.
003B	2	2	103H063030	Escutcheon, Side Mold
004B	2	2	51280304B0	B.H. Tapped Screw B3 x 4
006B	2	2	211H063020	Escutcheon, Side Mold
007B	2		211H067010	Cap
008B	1	1	127H158010	Window
010B	1	1	103H259070	Bushing, Memory/Tuning
013B	5	5	2129259020	Bushing, Equalizer SW.
014B	9	9	208H259010	Bushing, Push SW.
023B	1	1	415H259010	Bushing, Power SW.

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
016B	2	2	103H154020	Knob, Tuning/Scan
017B	9	9	103H154030	Knob, Memory
020B	5	5	2129154040	Knob, Equalizer
030B	4	4	51302606B0	P.H. Tapped Screw P2.6 x 6
031B	3	3	51280308B0	B.H. Tapped Screw B3 x 8
032B	4	4	51280308B0	B.H. Tapped Screw B3 x 8
011D	2	2	2965118010	Spacer

[C02-99] LID (Top and Bottom Cover)



(P) TYPE

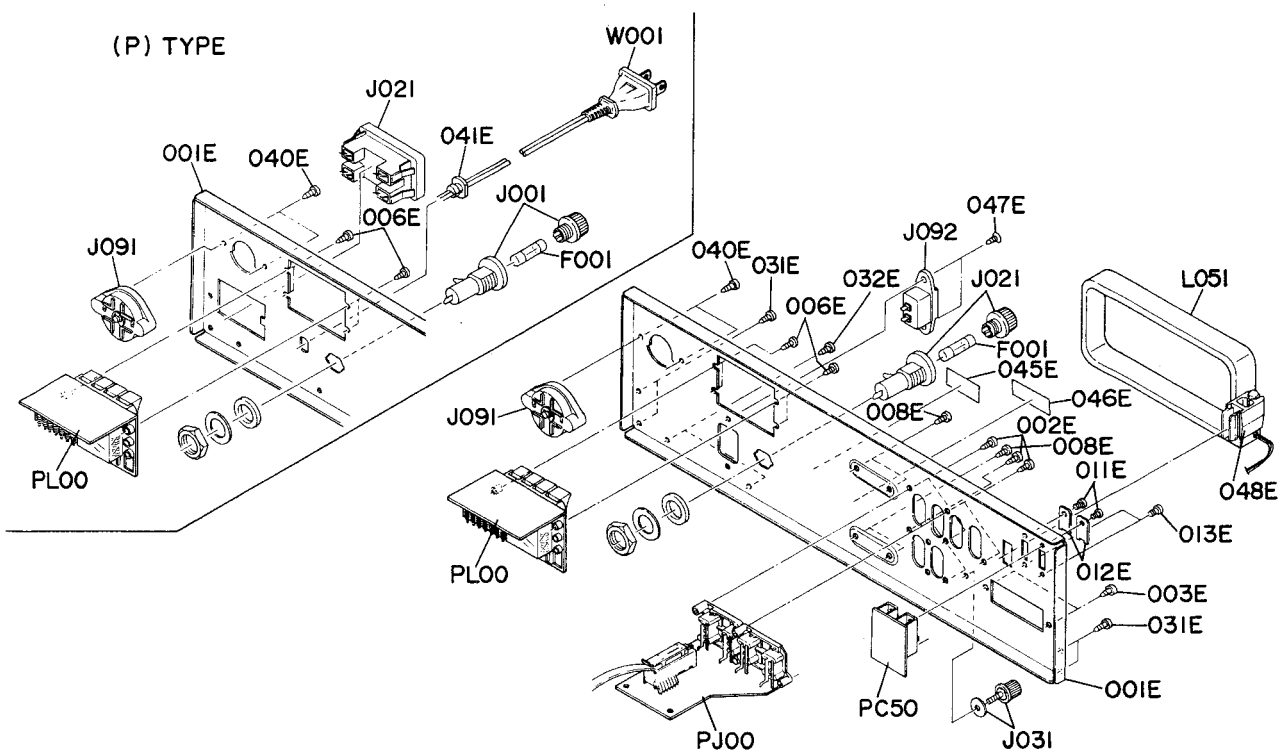
• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
001D	1		103H257040	Lid, Top Cover
001D		1	127H064500	Wood Case Assembly
002D	6		51260408U0	B.T. Screw B4 x 8
002D		5	51280320U0	B.H. Tapped Screw B3 x 20
003D	2		2991259110	Bushing
005D		4	51524116A0	R.H. Wood Screw
006D		5	54110149A0	Flat Washer, L.
007D	1	1	103H257030	Lid, Buttom Cover
008D	4		403H057010	Leg
009D	9	4	51280308B0	B.H. Tapped Screw B3 x 8

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
001R	1		2932861110	Label
001R		1	2932861010	Label
002R	1	1	2578861010	Label

[C03-99] Rear Panel

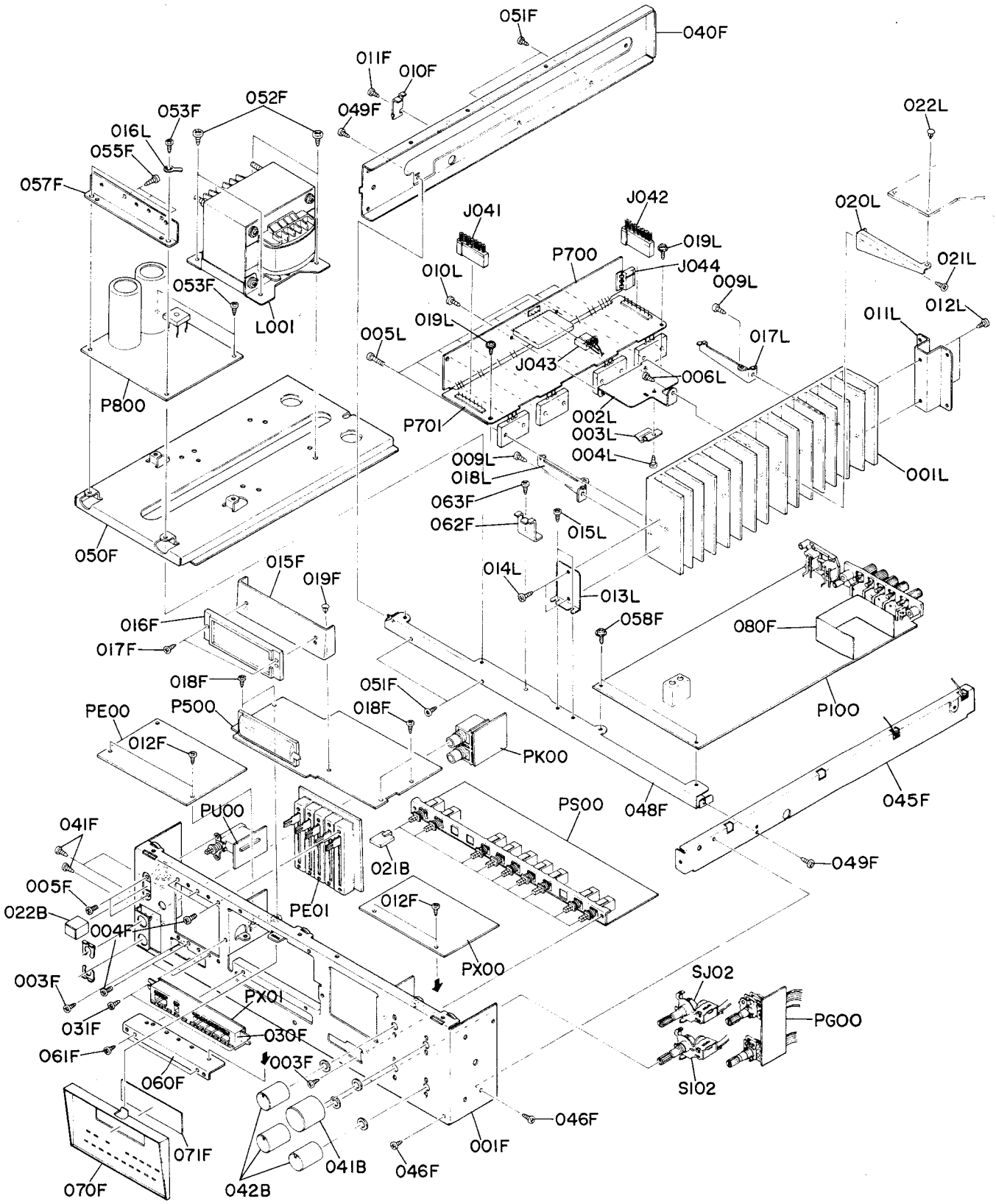


- (E): for Europe
- (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
001E	1		127H160030	Bracket, Rear Panel
001E		1	127H160020	Bracket, Rear Panel
002E	6	6	51280308B0	B.H. Tapped Screw B3 x 8
003E	2	2	51280308B0	B.H. Tapped Screw B3 x 8
006E	4	4	51280308B0	B.H. Tapped Screw B3 x 8
008E	4	4	51280308B0	B.H. Tapped Screw B3 x 8
011E	2	2	51102604A0	B.H.M. Screw B2.6 x 4
012E	2	2	123H114010	Stopper, Scan/Emphasis
013E	2	2	51102604A0	B.H.M. Screw B2.6 x 4
031E	4	4	51280308B0	B.H. Tapped Screw B3 x 8
032E	2	2	51280308B0	B.H. Tapped Screw B3 x 8
040E	2	2	51280308B0	B.H. Tapped Screw B3 x 8
041E		1	1455259090	Bushing, AC Cord
045E	1		4581861010	Label, Made in Japan.
046E	1	1	2112265010	Indicator
047E	2		51870308U0	O.C.H. Tapped Screw O3 x 8
048E	1	1	408H271010	Holder

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
⚠F001	1		FS10250700	Fuse 2.5A 250V
⚠F001		1	FS10500600	Fuse 5A 250V
⚠J001		1	YJ08000300	Jack, Fuse Holder
⚠J021	1		YJ08000290	Jack, Fuse Holder
⚠J021		1	YJ04001070	Jack, AC Outlet
J031	1	1	YJ03010250	Terminal, GND
⚠J091	1	1	BY05080040	Voltage Selector
⚠J092	1		YP04000610	Plug, AC Inlet
L051	1	1	LA00015020	Antenna Coil, Loop
⚠W001		1	YC01800190	A.C. Power Cord

[P01-99] Front Chassis and General Parts

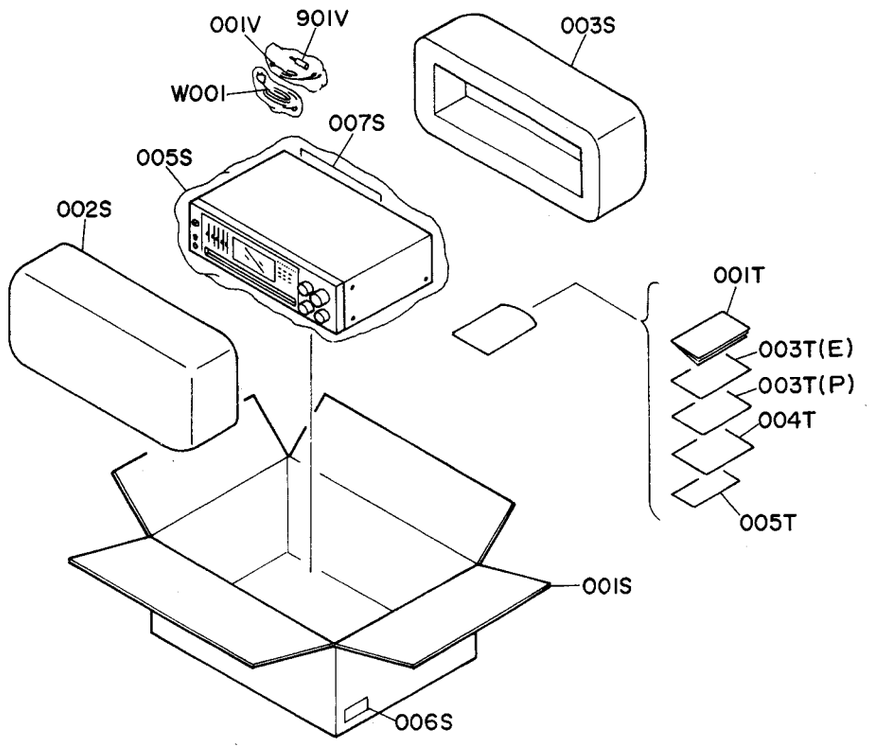


DESCRIPTION
Knob, Push Switch
Knob, Power Switch
Knob, Volume
Knob
Bracket, Front
B.H.M. Screw B3 x 6
B.H.M. Screw B3 x 6
B.H.M. Screw B3 x 6
Retainer
B.H. Tapped Screw B3 x 8
B.H. Tapped Screw B3 x 8
Retainer, Digitron
Bushing, Digitron
B.H. Tapped Screw B3 x 8
B.H. Tapped Screw B3 x 8
Clamper
Guide
B.H. Tapped Screw B3 x 8
Stay, (L)
B.H. Tapped Screw B3 x 8
Stay, (R)
B.H. Tapped Screw B3 x 8
Stay, Center
B.H. Tapped Screw B3 x 8
Chassis, Transformer
B.H. Tapped Screw B3 x 8
B.H. Tapped Screw B4 x 10
B.H. Tapped Screw B3 x 6
B.T. Screw B3 x 8
Bracket
B.H. Tapped Screw B3 x 8
Bracket
B.H. Tapped Screw B3 x 8
Retainer
B.H. Tapped Screw B3 x 8
Dial
Window
Shield
Heatsink, Main
Heatsink, IC
Spring
B.H. Tapped Screw B3 x 8
B.T. Screw B3 x 15
B.H. Tapped Screw B3 x 10
B.H. Tapped Screw B3 x 6
B.H. Tapped Screw B3 x 8
Bracket
B.H. Tapped Screw B3 x 8

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
013L	1	1	2276160040	Bracket
014L	2	2	51280308B0	B.H. Tapped Screw B3 x 8
015L	2	2	51280308B0	B.H. Tapped Screw B3 x 8
016L	1	1	62030049W0	Lug
017L	1	1	104H160010	Bracket
018L	1	1	104H160020	Bracket
019L	2	2	51260308B0	B.T. Screw B3 x 8
020L	1	1	104H160040	Bracket
021L	1	1	51280308B0	B.H. Tapped Screw B3 x 8
022L	1	1	2276005050	Clamper
J041	1	1	YJ06001060	Jack, (7P)
J042	1	1	YJ06001060	Jack, (7P)
J043	1	1	YJ06001240	Jack, (3P)
J044	1	1	YJ06001240	Jack, (3P)
⚠L001	1	1	TS18616010	Power Transformer
S102	1	1	SR04040040	Rotary Switch
SJ02	1	1	SR00050100	Rotary Switch

[H01-99] Packing Material



• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
001S	1		127H801020	Packing Case
001S		1	127H801010	Packing Case
002S	1		211H809010	Cushion, Front
002S		1	211H809030	Cushion, Front
003S	1		211H809020	Cushion, Rear
003S		1	211H809040	Cushion, Rear
005S	1		9090808030	Polyethylene Sheet
005S		1	9091111030	Polyethylene Sheet
006S	4		9526019060	Serial No. Card
006S		3	9526019050	Serial No. Card
007S		1	2918107370	Sheet

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
001T	1	1	127H851310	Instructions
003T	1		127H856010	Circuit Diagram
003T		1	2818854010	Guarantee Card
004T		1	9650000010	S. Station Card
005T		1	3435851210	Instructions, Flysheet
001V	1	1	ZA02000070	EXT. Antenna
901V		1	YJ04000240	Jack
⚠W001	1		ZC01805030	A.C. Power Cord

- (E): for Europe
- (P): for PX

DESCRIPTION
00-TUNER/PHONO
RCUIT BOARD
V. Board,Tuner/Phono
V. Board Assembly
V. Board Assembly
00-CAPACITORS
mming 20pF
amic 22pF ±5%
n 470pF ±5%
amic 0.01μF ±20%
amic 0.047μF +80% −20%
amic 5pF ±0.25pF
amic 390pF ±5%
amic 1000pF ±10%
amic 0.047μF +80% −20%
amic 0.01μF ±20%
amic 0.022μF +80% −20%
amic 0.047μF +80% −20%
ct 10μF 25V
amic 0.022μF +80% −20%
amic 47pF ±5%
amic 100pF ±5%
amic 0.01μF ±20%
amic 0.022μF +80% −20%
amic 1000pF ±10%
amic 0.1μF +80% −20%
amic 0.022μF +80% −20%
n 0.027μF ±10%
ct 0.47μF ±20%
amic 0.047μF +80% −20%
ct 100μF 16V
ct 10μF 25V
ct 10μF 25V
amic 0.01μF ±20%
amic 0.01μF ±20%
amic 0.022μF +80% −20%
amic 0.022μF +80% −20%
amic 0.022μF +80% −20%
amic 0.01μF ±20%
mming 6pF
amic 5pF ±0.25pF
amic 47pF ±5%
amic 0.01μF ±20%
mming 6pF
amic 5pF ±0.25pF
mming 6pF
amic 5pF ±0.25pF
amic 3pF ±0.25pF
amic 10pF ±0.5pF
amic 330pF ±5%
amic 0.022μF +80% −20%
amic 0.022μF +80% −20%
amic 0.022μF +80% −20%
amic 0.01μF ±20%
amic 0.01μF ±20%
amic 0.022μF +80% −20%
amic 0.022μF +80% −20%

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
C121	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C122	1	1	EA47405030	Elect 0.47μF 50V
C123	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C124	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C125	1	1	EA47405030	Elect 0.47μF 50V
C126	1	1	EA47405030	Elect 0.47μF 50V
C127	1	1	DD15330300	Ceramic 33pF ±5%
C128	1	1	DK18473320	Ceramic 0.047μF +80% −20%
C129	1	1	DK18473320	Ceramic 0.047μF +80% −20%
C130	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C131	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C141	1	1	DK17103300	Ceramic 0.01μF ±20%
C142	1	1	DD15150300	Ceramic 15pF ±5%
C143	1	1	DD15330300	Ceramic 33pF ±5%
C144	1	1	DD11100300	Ceramic 10pF ±0.5pF
C145	1	1	DD10010300	Ceramic 1pF ±0.25pF
C146	1	1	DD10030300	Ceramic 3pF ±0.25pF
C147	1	1	CT10600090	Trimming 6pF
C148	1	1	DD10020300	Ceramic 2pF ±0.25pF
C149	1	1	DK17103300	Ceramic 0.01μF ±20%
C150	1	1	DD15331370	Ceramic 330pF ±5%
C151	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C301	1	1	DF16473300	Film 0.047μF ±10%
C302	1	1	DF55511090	Film 510pF ±5%
C303	1	1	EA10505030	Elect 1μF 50V
C304	1	1	EA47505030	Elect 4.7μF 50V
C305	1	1	DF55821090	Film 820pF ±5%
C306	1	1	EQ10505030	Elect 1μF 50V
C307	1	1	EA10505030	Elect 1μF 50V
C308	1	1	EA47505030	Elect 4.7μF 50V
C309	1	1	EA22701630	Elect 220μF 16V
C311	1	1	EA10505030	Elect 1μF 50V
C312	1	1	EA10505030	Elect 1μF 50V
C313	1		DF16272350	Film 2700pF ±10%
C313		1	DF16222350	Film 2200pF ±10%
C314	1		DF16272350	Film 2700pF ±10%
C314		1	DF16222350	Film 2200pF ±10%
C315	1	1	EA10405030	Elect 0.1μF 50V
C316	1	1	EA10405030	Elect 0.1μF 50V
C317	1	1	DD15101370	Ceramic 100pF ±5%
C318	1	1	DD15101370	Ceramic 100pF ±5%
C319	1	1	EA47505030	Elect 4.7μF 50V
C320	1	1	EA47505030	Elect 4.7μF 50V
C321	1	1	EA10701630	Elect 100μF 16V
C322	1	1	EA10601630	Elect 10μF 16V
C323	1		DK16221300	Ceramic 220pF ±10%
C324	1		DF16182350	Film 1800pF ±10%
C401	1	1	EA33505030	Elect 3.3μF 50V
C402	1	1	EA33505030	Elect 3.3μF 50V
C403	1	1	DD15331370	Ceramic 330pF ±5%
C404	1	1	DD15331370	Ceramic 330pF ±5%
C405	1	1	EA47601630	Elect 47μF 16V
C406	1	1	EA47601630	Elect 47μF 16V
C407	1	1	DF15332350	Film 3300pF ±5%
C408	1	1	DF15332350	Film 3300pF ±5%
C409	1	1	DF15123350	Film 0.012μF ±5%
C410	1	1	DF15123350	Film 0.012μF ±5%
C411	1	1	EA47505030	Elect 4.7μF ±20%
C412	1	1	EA47505030	Elect 4.7μF ±20%
C413	1	1	DD15101370	Ceramic 100pF ±5%
C414	1	1	DD15101370	Ceramic 100pF ±5%
C415	1	1	EA10702530	Elect 100μF 25V
C416	1	1	EA10702530	Elect 100μF 25V

- (E): for Europe
- (P): for PX

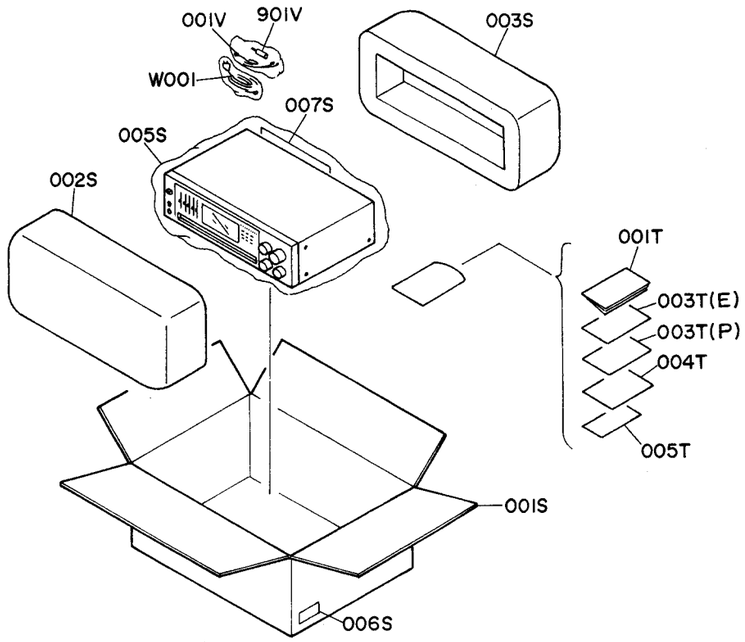
REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				P100-RESISTORS
				(All Resistors are ±5% & ¼W)
RA01	1	1	GD05105140	1MΩ
RA02	1	1	GD05104140	100KΩ
RA03	1	1	GD05225140	2.2MΩ
RA04	1	1	GD05102140	1KΩ
RA05	1	1	GD05153140	15KΩ
RA06	1	1	GD05221140	220Ω
RA07	1	1	GD05152140	1.5KΩ
RA08	1	1	GD05222140	2.2KΩ
RA09	1	1	GD05103140	10KΩ
RA10	1	1	GD05103140	10KΩ
RA11	1	1	GD05392140	3.9KΩ
RA12	1	1	GD05102140	1KΩ
⚠RA13	1	1	GD05181140	180Ω
RA14	1	1	GD05153140	15KΩ
RA15	1	1	GD05272140	2.7KΩ
RA16	1	1	GD05473140	47KΩ
RA17	1	1	GD05272140	2.7KΩ
RA18	1	1	GD05101140	100Ω
RA19	1	1	GD05103140	10KΩ
RA20	1	1	GD05101140	100Ω
RA21	1	1	GD05222140	2.2kΩ
RA22	1	1	GD05820140	82Ω
RA23	1	1	RA01030800	10KΩ(B), Trimming
RA24	1	1	GD05103140	10KΩ
RA25	1	1	GD05104140	100KΩ
RA26	1	1	GD05471140	470Ω
RC02	1	1	GD05103140	10KΩ
RC03	1	1	GD05104140	100KΩ
RC04	1	1	GD05104140	100KΩ
RC05	1	1	GD05103140	10KΩ
RC06	1	1	GD05103140	10KΩ
RC07	1	1	GD05104140	100KΩ
RC08	1	1	GD05104140	100KΩ
R101	1	1	GD05104140	100KΩ
R102	1	1	GD05104140	100KΩ
R103	1	1	GD05564140	560KΩ
R104	1	1	GD05104140	100KΩ
R105	1	1	GD05101140	100Ω
R106	1	1	GD05223140	22KΩ
R107	1	1	GD05104140	100KΩ
R108	1	1	GD05104140	100KΩ
⚠R109	1	1	GD05101140	100Ω
R110	1	1	GD05472140	4.7KΩ
R111	1	1	GD05223140	22KΩ
R112	1	1	GD05332140	3.3KΩ
R113	1	1	GD05470140	47Ω
R114	1	1	GD05331140	330Ω
R115	1	1	GD05332140	3.3KΩ
R116	1	1	GD05102140	1KΩ
R117	1	1	GD05331140	330Ω
R118	1	1	GD05273140	27KΩ
⚠R119	1	1	GD05101140	100Ω

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
R121	1	1	GD05392140	3.9KΩ
R122	1	1	GD05103140	10KΩ
R123	1	1	GD05124140	120KΩ
R124	1	1	GD05153140	15KΩ
R125	1	1	GD05272140	2.7KΩ
R126	1	1	GD05183140	18KΩ
R127	1	1	GD05821140	820Ω
R128	1	1	GD05104140	100KΩ
R129	1	1	GD05331140	330Ω
R130	1	1	GD05470140	47Ω
R131	1	1	RA01040800	100KΩ(B), Trimming
R132	1	1	GD05104140	100KΩ
R133	1	1	GD05104140	100KΩ
R134	1	1	GD05102140	1KΩ
R135	1	1	GD05104140	100KΩ
R136	1	1	GD05473140	47KΩ
R137	1	1	GD05103140	10KΩ
R138	1	1	GD05223140	22KΩ
R139	1	1	GD05104140	100KΩ
⚠R141	1	1	GD05101140	100Ω
R142	1	1	GD05185140	1.8MΩ
R143	1	1	GD05103140	10KΩ
R144	1	1	GD05103140	10KΩ
R145	1	1	GD05104140	100KΩ
R146	1	1	GD05331140	330Ω
R147	1	1	GD05821140	820Ω
R148	1	1	GD05104140	100KΩ
R149	1	1	GD05102140	1KΩ
R150	1	1	GD05102140	1KΩ
R301	1	1	GD05473140	47KΩ
R302	1	1	GD05224140	220KΩ
R303	1	1	RA05020800	5KΩ(B), Trimming
R304	1	1	GD05153140	15KΩ
R305	1	1	GD05821140	820Ω
R306	1	1	RA02020800	2KΩ(B), Trimming
R307	1	1	GD05102140	1KΩ
R308	1	1	GD05474140	470KΩ
R309	1	1	GD05472140	4.7KΩ
R310	1	1	GD05472140	4.7KΩ
R311	1	1	GD05333140	33KΩ
R312	1	1	GD05154140	150KΩ
⚠R313	1	1	GD05470140	47Ω
R314	1	1	GD05152140	1.5KΩ
R315	1	1	GD05103140	10KΩ
R316	1	1	GD05103140	10KΩ
R318	1	1	GD05154140	150KΩ
R319	1	1	GD05103140	10KΩ
R323	1		RA01030800	10KΩ(B), Trimming
R323		1	RA05030800	50KΩ(B), Trimming
R324	1	1	GD05102140	1KΩ
R325	1	1	GD05472140	4.7KΩ
R326	1	1	GD05472140	4.7KΩ
R327	1	1	GD05224140	220KΩ
R328	1	1	GD05224140	220KΩ
R329	1	1	GD05273140	27KΩ
R330	1	1	GD05273140	27KΩ
R331	1	1	GD05154140	150KΩ
R332	1	1	GD05154140	150KΩ
R333	1	1	GD05155140	1.5MΩ
R334	1	1	GD05155140	1.5MΩ

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION	
021B	9	9	208H154060	Knob, Push Switch	
022B	1	1	415H154010	Knob, Power Switch	
041B	1	1	103H154010	Knob, Volume	
042B	3	3	208H154020	Knob	
001F	1	1	127H160010	Bracket, Front	
003F	2	2	51100306A9	B.H.M. Screw	B3 x 6
004F	5	5	51100306A9	B.H.M. Screw	B3 x 6
005F	2	2	51100306A9	B.H.M. Screw	B3 x 6
010F	1	1	127H104030	Retainer	
011F	1	1	51280308B0	B.H. Tapped Screw	B3 x 8
012F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
015F	1	1	127H104010	Retainer, Digitron	
016F	1	1	416H259040	Bushing, Digitron	
017F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
018F	4	4	51280308B0	B.H. Tapped Screw	B3 x 8
019F	1	1	2276005050	Clamper	
030F	1	1	127H051010	Guide	
031F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
040F	1	1	127H126010	Stay, (L)	
041F	3	3	51280308B0	B.H. Tapped Screw	B3 x 8
045F	1	1	103H126010	Stay, (R)	
046F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
048F	1	1	103H126020	Stay, Center	
049F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
050F	1	1	104H105010	Chassis, Transformer	
051F	4	4	51280308B0	B.H. Tapped Screw	B3 x 8
052F	4	4	51280410B0	B.H. Tapped Screw	B4 x 10
053F	3	3	51280306B0	B.H. Tapped Screw	B3 x 6
055F	4	4	51260308B0	B.T. Screw	B3 x 8
057F	1	1	127H160040	Bracket	
058F	1	1	51280308B0	B.H. Tapped Screw	B3 x 8
060F	1	1	127H160040	Bracket	
061F	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
062F	1	1	127H104020	Retainer	
063F	1	1	51280308B0	B.H. Tapped Screw	B3 x 8
070F	1	1	127H302010	Dial	
071F	1	1	127H158020	Window	
080F	1	1	2137109010	Shield	
001L	1	1	104H267010	Heatsink, Main	
002L	1	1	103H267020	Heatsink, IC	
003L	1	1	2116115010	Spring	
004L	1	1	51280308B0	B.H. Tapped Screw	B3 x 8
005L	8	8	51260315B0	B.T. Screw	B3 x 15
006L	1	1	51280310B0	B.H. Tapped Screw	B3 x 10
009L	2	2	51280306B0	B.H. Tapped Screw	B3 x 6
010L	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
011L	1	1	103H160100	Bracket	
012L	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
013L	1	1	2276160040	Bracket	
014L	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
015L	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
016L	1	1	62030049W0	Lug	
017L	1	1	104H160010	Bracket	
018L	1	1	104H160020	Bracket	
019L	2	2	51260308B0	B.T. Screw	B3 x 8
020L	1	1	104H160040	Bracket	
021L	1	1	51280308B0	B.H. Tapped Screw	B3 x 8
022L	1	1	2276005050	Clamper	
J041	1	1	YJ06001060	Jack, (7P)	
J042	1	1	YJ06001060	Jack, (7P)	
J043	1	1	YJ06001240	Jack, (3P)	
J044	1	1	YJ06001240	Jack, (3P)	
⚠L001	1	1	TS18616010	Power Transformer	
S102	1	1	SR04040040	Rotary Switch	
SJ02	1	1	SR00050100	Rotary Switch	

[H01-99] Packing Material



• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
001S	1		127H801020	Packing Case
001S		1	127H801010	Packing Case
002S	1		211H809010	Cushion, Front
002S		1	211H809030	Cushion, Front
003S	1		211H809020	Cushion, Rear
003S		1	211H809040	Cushion, Rear
005S	1		9090808030	Polyethylene Sheet
005S		1	9091111030	Polyethylene Sheet
006S	4		9526019060	Serial No. Card
006S		3	9526019050	Serial No. Card
007S		1	2918107370	Sheet

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
001T	1	1	127H851310	Instructions
003T	1		127H856010	Circuit Diagram
003T		1	2818854010	Guarantee Card
004T		1	9650000010	S. Station Card
005T		1	3435851210	Instructions, Flysheet
001V	1	1	ZA02000070	EXT. Antenna
901V		1	YJ04000240	Jack
⚠W001	1		ZC01805030	A.C. Power Cord

11. ELECTRICAL PARTS LIST

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				P100-TUNER/PHONO CIRCUIT BOARD
P100	1	1	YK127H1410	P.W. Board,Tuner/Phono
	1		ZZ127H8410	P.W. Board Assembly
		1	ZZ127H9410	P.W. Board Assembly
				P100-CAPACITORS
CA01	1	1	CT12000090	Trimming 20pF
CA05	1	1	DD15220370	Ceramic 22pF ±5%
CA06	1	1	DF55471090	Film 470pF ±5%
CA09	1	1	DK17103300	Ceramic 0.01μF ±20%
CA10	1	1	DK18473320	Ceramic 0.047μF +80% −20%
CA11	1	1	DD10050370	Ceramic 5pF ±0.25pF
CA12	1	1	DD15391370	Ceramic 390pF ±5%
CA14	1	1	DK16102300	Ceramic 1000pF ±10%
CA15	1	1	DK18473320	Ceramic 0.047μF +80% −20%
CA16	1	1	DK17103300	Ceramic 0.01μF ±20%
CA17	1	1	DK18223320	Ceramic 0.022μF +80% −20%
CA18	1	1	DK18473320	Ceramic 0.047μF +80% −20%
CA19	1	1	EA10602530	Elect 10μF 25V
CA20	1	1	DK18223320	Ceramic 0.022μF +80% −20%
CA21	1	1	DD15470370	Ceramic 47pF ±5%
CA22	1	1	DD15101370	Ceramic 100pF ±5%
CA23	1	1	DK17103300	Ceramic 0.01μF ±20%
CA24	1	1	DK18223320	Ceramic 0.022μF +80% −20%
CA25	1	1	DK16102300	Ceramic 1000pF ±10%
CA26	1	1	DK18104320	Ceramic 0.1μF +80% −20%
CA27	1	1	DK18223320	Ceramic 0.022μF +80% −20%
CA28	1	1	DF16273350	Film 0.027μF ±10%
CA29	1	1	EA47405030	Elect 0.47μF ±20%
CA30	1	1	DK18473320	Ceramic 0.047μF +80% −20%
CA31	1	1	EA10701630	Elect 100μF 16V
CA32	1	1	EA10602530	Elect 10μF 25V
CA33	1	1	EA10602530	Elect 10μF 25V
CA34	1	1	DK17103300	Ceramic 0.01μF ±20%
CA35	1	1	DK17103300	Ceramic 0.01μF ±20%
CA36	1	1	DK18223320	Ceramic 0.022μF +80% −20%
CA37	1	1	DK18223320	Ceramic 0.022μF +80% −20%
CA38	1	1	DK18223320	Ceramic 0.022μF +80% −20%
CA39	1	1	DK17103300	Ceramic 0.01μF ±20%
C101	1	1	CT10600090	Trimming 6pF
C102	1	1	DD10050300	Ceramic 5pF ±0.25pF
C103	1	1	DD15470370	Ceramic 47pF ±5%
C104	1	1	DK17103300	Ceramic 0.01μF ±20%
C105	1	1	CT10600090	Trimming 6pF
C106	1	1	DD10050300	Ceramic 5pF ±0.25pF
C107	1	1	CT10600090	Trimming 6pF
C108	1	1	DD10050300	Ceramic 5pF ±0.25pF
C109	1	1	DD10030300	Ceramic 3pF ±0.25pF
C110	1	1	DD11100300	Ceramic 10pF ±0.5pF
C111	1	1	DD15331370	Ceramic 330pF ±5%
C112	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C113	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C114	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C115	1	1	DK17103300	Ceramic 0.01μF ±20%
C116	1	1	DK17103300	Ceramic 0.01μF ±20%
C117	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C118	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C121	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C122	1	1	EA47405030	Elect 0.47μF 50V
C123	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C124	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C125	1	1	EA47405030	Elect 0.47μF 50V
C126	1	1	EA47405030	Elect 0.47μF 50V
C127	1	1	DD15330300	Ceramic 33pF ±5%
C128	1	1	DK18473320	Ceramic 0.047μF +80% −20%
C129	1	1	DK18473320	Ceramic 0.047μF +80% −20%
C130	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C131	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C141	1	1	DK17103300	Ceramic 0.01μF ±20%
C142	1	1	DD15150300	Ceramic 15pF ±5%
C143	1	1	DD15330300	Ceramic 33pF ±5%
C144	1	1	DD11100300	Ceramic 10pF ±0.5pF
C145	1	1	DD10010300	Ceramic 1pF ±0.25pF
C146	1	1	DD10030300	Ceramic 3pF ±0.25pF
C147	1	1	CT10600090	Trimming 6pF
C148	1	1	DD10020300	Ceramic 2pF ±0.25pF
C149	1	1	DK17103300	Ceramic 0.01μF ±20%
C150	1	1	DD15331370	Ceramic 330pF ±5%
C151	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C301	1	1	DF16473300	Film 0.047μF ±10%
C302	1	1	DF55511090	Film 510pF ±5%
C303	1	1	EA10505030	Elect 1μF 50V
C304	1	1	EA47505030	Elect 4.7μF 50V
C305	1	1	DF55821090	Film 820pF ±5%
C306	1	1	EQ10505030	Elect 1μF 50V
C307	1	1	EA10505030	Elect 1μF 50V
C308	1	1	EA47505030	Elect 4.7μF 50V
C309	1	1	EA22701630	Elect 220μF 16V
C311	1	1	EA10505030	Elect 1μF 50V
C312	1	1	EA10505030	Elect 1μF 50V
C313	1		DF16272350	Film 2700pF ±10%
C313		1	DF16222350	Film 2200pF ±10%
C314	1		DF16272350	Film 2700pF ±10%
C314		1	DF16222350	Film 2200pF ±10%
C315	1	1	EA10405030	Elect 0.1μF 50V
C316	1	1	EA10405030	Elect 0.1μF 50V
C317	1	1	DD15101370	Ceramic 100pF ±5%
C318	1	1	DD15101370	Ceramic 100pF ±5%
C319	1	1	EA47505030	Elect 4.7μF 50V
C320	1	1	EA47505030	Elect 4.7μF 50V
C321	1	1	EA10701630	Elect 100μF 16V
C322	1	1	EA10601630	Elect 10μF 16V
C323	1		DK16221300	Ceramic 220pF ±10%
C324	1		DF16182350	Film 1800pF ±10%
C401	1	1	EA33505030	Elect 3.3μF 50V
C402	1	1	EA33505030	Elect 3.3μF 50V
C403	1	1	DD15331370	Ceramic 330pF ±5%
C404	1	1	DD15331370	Ceramic 330pF ±5%
C405	1	1	EA47601630	Elect 47μF 16V
C406	1	1	EA47601630	Elect 47μF 16V
C407	1	1	DF15332350	Film 3300pF ±5%
C408	1	1	DF15332350	Film 3300pF ±5%
C409	1	1	DF15123350	Film 0.012μF ±5%
C410	1	1	DF15123350	Film 0.012μF ±5%
C411	1	1	EA47505030	Elect 4.7μF ±20%
C412	1	1	EA47505030	Elect 4.7μF ±20%
C413	1	1	DD15101370	Ceramic 100pF ±5%
C414	1	1	DD15101370	Ceramic 100pF ±5%
C415	1	1	EA10702530	Elect 100μF 25V
C416	1	1	EA10702530	Elect 100μF 25V

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				P100-RESISTORS (All Resistors are ±5% & ¼W)
RA01	1	1	GD05105140	1MΩ
RA02	1	1	GD05104140	100KΩ
RA03	1	1	GD05225140	2.2MΩ
RA04	1	1	GD05102140	1KΩ
RA05	1	1	GD05153140	15KΩ
RA06	1	1	GD05221140	220Ω
RA07	1	1	GD05152140	1.5KΩ
RA08	1	1	GD05222140	2.2KΩ
RA09	1	1	GD05103140	10KΩ
RA10	1	1	GD05103140	10KΩ
RA11	1	1	GD05392140	3.9KΩ
RA12	1	1	GD05102140	1KΩ
⚠RA13	1	1	GD05181140	180Ω
RA14	1	1	GD05153140	15KΩ
RA15	1	1	GD05272140	2.7KΩ
RA16	1	1	GD05473140	47KΩ
RA17	1	1	GD05272140	2.7KΩ
RA18	1	1	GD05101140	100Ω
RA19	1	1	GD05103140	10KΩ
RA20	1	1	GD05101140	100Ω
RA21	1	1	GD05222140	2.2kΩ
RA22	1	1	GD05820140	82Ω
RA23	1	1	RA01030800	10KΩ(B), Trimming
RA24	1	1	GD05103140	10KΩ
RA25	1	1	GD05104140	100KΩ
RA26	1	1	GD05471140	470Ω
RC02	1	1	GD05103140	10KΩ
RC03	1	1	GD05104140	100KΩ
RC04	1	1	GD05104140	100KΩ
RC05	1	1	GD05103140	10KΩ
RC06	1	1	GD05103140	10KΩ
RC07	1	1	GD05104140	100KΩ
RC08	1	1	GD05104140	100KΩ
R101	1	1	GD05104140	100KΩ
R102	1	1	GD05104140	100KΩ
R103	1	1	GD05564140	560KΩ
R104	1	1	GD05104140	100KΩ
R105	1	1	GD05101140	100Ω
R106	1	1	GD05223140	22KΩ
R107	1	1	GD05104140	100KΩ
R108	1	1	GD05104140	100KΩ
⚠R109	1	1	GD05101140	100Ω
R110	1	1	GD05472140	4.7KΩ
R111	1	1	GD05223140	22KΩ
R112	1	1	GD05332140	3.3KΩ
R113	1	1	GD05470140	47Ω
R114	1	1	GD05331140	330Ω
R115	1	1	GD05332140	3.3KΩ
R116	1	1	GD05102140	1KΩ
R117	1	1	GD05331140	330Ω
R118	1	1	GD05273140	27KΩ
⚠R119	1	1	GD05101140	100Ω
R121	1	1	GD05392140	3.9KΩ
R122	1	1	GD05103140	10KΩ
R123	1	1	GD05124140	120KΩ
R124	1	1	GD05153140	15KΩ
R125	1	1	GD05272140	2.7KΩ
R126	1	1	GD05183140	18KΩ
R127	1	1	GD05821140	820Ω
R128	1	1	GD05104140	100KΩ
R129	1	1	GD05331140	330Ω
R130	1	1	GD05470140	47Ω
R131	1	1	RA01040800	100KΩ(B), Trimming
R132	1	1	GD05104140	100KΩ
R133	1	1	GD05104140	100KΩ
R134	1	1	GD05102140	1KΩ
R135	1	1	GD05104140	100KΩ
R136	1	1	GD05473140	47KΩ
R137	1	1	GD05103140	10KΩ
R138	1	1	GD05223140	22KΩ
R139	1	1	GD05104140	100KΩ
⚠R141	1	1	GD05101140	100Ω
R142	1	1	GD05185140	1.8MΩ
R143	1	1	GD05103140	10KΩ
R144	1	1	GD05103140	10KΩ
R145	1	1	GD05104140	100KΩ
R146	1	1	GD05331140	330Ω
R147	1	1	GD05821140	820Ω
R148	1	1	GD05104140	100KΩ
R149	1	1	GD05102140	1KΩ
R150	1	1	GD05102140	1KΩ
R301	1	1	GD05473140	47KΩ
R302	1	1	GD05224140	220KΩ
R303	1	1	RA05020800	5KΩ(B), Trimming
R304	1	1	GD05153140	15KΩ
R305	1	1	GD05821140	820Ω
R306	1	1	RA02020800	2KΩ(B), Trimming
R307	1	1	GD05102140	1KΩ
R308	1	1	GD05474140	470KΩ
R309	1	1	GD05472140	4.7KΩ
R310	1	1	GD05472140	4.7KΩ
R311	1	1	GD05333140	33KΩ
R312	1	1	GD05154140	150KΩ
⚠R313	1	1	GD05470140	47Ω
R314	1	1	GD05152140	1.5KΩ
R315	1	1	GD05103140	10KΩ
R316	1	1	GD05103140	10KΩ
R318	1	1	GD05154140	150KΩ
R319	1	1	GD05103140	10KΩ
R323	1		RA01030800	10KΩ(B), Trimming
R323		1	RA05030800	50KΩ(B), Trimming
R324	1	1	GD05102140	1KΩ
R325	1	1	GD05472140	4.7KΩ
R326	1	1	GD05472140	4.7KΩ
R327	1	1	GD05224140	220KΩ
R328	1	1	GD05224140	220KΩ
R329	1	1	GD05273140	27KΩ
R330	1	1	GD05273140	27KΩ
R331	1	1	GD05154140	150KΩ
R332	1	1	GD05154140	150KΩ
R333	1	1	GD05155140	1.5MΩ
R334	1	1	GD05155140	1.5MΩ

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
R335	1	1	GD05103140	10KΩ
R336	1	1	GD05103140	10KΩ
R337	1	1	GD05471140	470Ω
R338	1	1	GD05471140	470Ω
R339	1	1	GD05822140	8.2KΩ
R340	1	1	GD05822140	8.2KΩ
R341	1	1	GD05104140	100KΩ
R342	1	1	GD05104140	100KΩ
R343	1	1	GD05392140	3.9KΩ
R344	1	1	GD05392140	3.9KΩ
⚠R345	1	1	GD05101140	100Ω
R346	1	1	GD05334140	330KΩ
R347	1	1	GD05222140	2.2KΩ
R348	1	1	GD05333140	33KΩ
R401	1	1	GD05104140	100KΩ
R402	1	1	GD05104140	100KΩ
R403	1	1	GD05222140	2.2KΩ
R404	1	1	GD05222140	2.2KΩ
R405	1	1	GD05104140	100KΩ
R406	1	1	GD05104140	100KΩ
R407	1	1	GD05471140	470Ω
R408	1	1	GD05471140	470Ω
R409	1	1	GD05223140	22KΩ
R410	1	1	GD05223140	22KΩ
R411	1	1	GD05274140	270KΩ
R412	1	1	GD05274140	270KΩ
R413	1	1	GD05104140	100KΩ
R414	1	1	GD05104140	100KΩ
R415	1	1	GD05221140	220Ω
R416	1	1	GD05221140	220Ω
⚠R417	1	1	GD05221140	220Ω
⚠R418	1	1	GD05221140	220Ω
				P100-SEMICONDUCTORS
DA01	1	1	HD40003420	Varicap KV-1236Z
DA02	1	1	HV00006120	Varistor MV-203
DA03	1	1	HD20001000	Diode 1S2473
DA04	1	1	HD30052090	Zener WZ-056
DA05	1	1	HD20000100	Diode 1S2473
DC01	1	1	HD20001000	Diode 1S2473
D101	1	1	HD40007030	Varicap SVC202
D102	1	1	HD40007030	Varicap SVC202
D103	1	1	HD40007030	Varicap SVC202
D104	1	1	HD40007030	Varicap SVC202
D105	1	1	HD20001000	Diode 1S2473
D106	1	1	HD20001000	Diode 1S2473
D107	1	1	HD20001000	Diode 1S2473
D109	1	1	HD20001000	Diode 1S2473
D110	1	1	HD20001000	Diode 1S2473
D111	1	1	HV00006120	Varistor MV-203
D112	1	1	HD30076090	Zener WZ-038
D113	1	1	HD30076090	Zener WZ-038
D114	1	1	HD30076090	Zener WZ-038
D301	1	1	HD30029090	Zener WZ-090

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
QA01	1	1	HC10058030	IC LA1245(AM IC)
QA02	1	1	HF200551D0	F.E.T. 2SK55(D)
QA03	1	1	HT309452A0	Transistor 2SC945(Q or R)
QA04	1	1	HT308291C0	Transistor 2SC829(C)
QC01	1	1	HT309452A0	Transistor 2SC945(Q or R)
QC02	1	1	HT107332A0	Transistor 2SA733(Q or R)
QC03	1	1	HT309452A0	Transistor 2SC945(Q or R)
QC04	1	1	HT107332A0	Transistor 2SA733(Q or R)
Q101	1	1	HF400451B0	F.E.T. 3SK45(B)
Q102	1	1	HF200551D0	F.E.T. 2SK55(D)
Q103	1	1	HT308291C0	Transistor 2SC829(C)
Q104	1	1	HT308291C0	Transistor 2SC829(C)
Q105	1	1	HT310471C0	Transistor 2SC1047(C)
Q106	1	1	HT308291C0	Transistor 2SC829(C)
Q107	1	1	HC10033010	IC HA11225
Q109	1	1	HT107332A0	Transistor 2SA733(Q or R)
Q110	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q112	1	1	HC10099030	IC LB1450
Q301	1	1	HT326342B0	Transistor 2SC2634(S or T)
Q302	1	1	HT326342B0	Transistor 2SC2634(S or T)
Q303	1	1	HT111272B0	Transistor 2SA1127
Q304	1	1	HT111272B0	Transistor 2SA1127
Q305	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q306	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q307	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q308	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q309	1	1	HC10001420	IC KB3347(MPX)
Q401	1	1	HC10013370	IC TL4558PB
				P100-MISCELLANEOUS
FA01	1	1	FG450302B0	Ceramic Filter, SFZ 450B-3
FA02	1	1	FF10045270	Ceramic Filter, BFU 450C
F101	1	1	FF11070530	Ceramic Filter, SFE 10.7MHz
F102	1		FF11070570	Ceramic Filter, 10.7MHz MS3G
F102		1	FF11070530	Ceramic Filter, SFE 10.7MHz
F103	1		FF11070570	Ceramic Filter, 10.7MHz MS3G
F103		1	FF11070530	Ceramic Filter, SFE 10.7MHz
JV01	1	1	YT02040340	Terminal, Phono Aux (4P)
J101	1	1	YJ06002460	Jack, (7P)
J102	1	1	YJ06002430	Jack, (3P)
J104	1	1	YJ06002460	Jack, (7P)
J105	1	1	YT01040290	Terminal, Antenna
J106	1	1	YJ06002390	Jack,(5P)
LA01	1	1	LA10015010	Antenna Coil, AM
LA03	1	1	LO10013330	OSC Coil, AM
LA05	1	1	LI10010730	I.F.T. Coil, AM IF
LA06	1		LS27025010	M.P.X. Coil
L101	1	1	LA12026190	Antenna Coil,FM
L102	1	1	LA12026200	Antenna Coil, RF-1
L103	1	1	LA12026210	Antenna Coil, RF-2
L104	1	1	LO12046030	OSC Coil, FM
L105	1	1	LC17510010	Choke Coil, 0.75μH
L106	1	1	LI10016010	I.F.T. Coil, IF
L107	1	1	LC13320050	Choke Coil, 3.3μH
L108	1	1	LI10159040	I.F.T. Coil, FM DET
L109	1	1	LI10159050	I.F.T. Coil, FM DET
L301	1	1	LS20010020	M.P.X. Coil

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
S101	1	1	SS04040040	Slide Switch, Selector
S102	1	1	SR00040090	Rotary Switch, Selector
W101	1	1	YU03300260	Jumper Lead, (3P)
W105	1	1	YU02260260	Jumper Lead, (2P)
W109	1	1	YU03280260	Jumper Lead, (3P)
				P500-SYNTHESIZER CIRCUIT BOARD
P500	1	1	YK127H1420	P.W. Board Synthesizer
	1	1	ZZ127H8420	P.W. Board Assembly
				P500-CAPACITORS
C501	1	1	EA22701630	Elect 220μF 16V
C502	1	1	EA10701630	Elect 100μF 16V
C504	1	1	DK16102300	Ceramic 1000pF ±10%
C505	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C506	1	1	EA22601630	Elect 22μF 16V
C507	1	1	DK16222300	Ceramic 2200pF ±10%
C508	1	1	EA22601630	Elect 22μF 16V
C509	1	1	EA10701630	Elect 100μF 16V
C510	1	1	DF16683350	Film 0.068μF ±10%
C511	1	1	EQ33405030	Elect 0.33μF 50V
C512	1	1	EA10505030	Elect 1μF 50V
C513	1	1	EA10505030	Elect 1μF 50V
C514	1	1	DK17103300	Ceramic 0.01μF ±20%
C515	1	1	DK17103300	Ceramic 0.01μF ±20%
C516	1	1	DK18223320	Ceramic 0.022μF +80% −20%
C517	1	1	EA10602530	Elect 10μF 25V
C518	1	1	DK17103300	Ceramic 0.01μF ±20%
C519	1	1	DD15270370	Ceramic 27pF ±5%
C520	1	1	DD15271370	Ceramic 270pF ±5%
C521	1	1	DK18223320	Ceramic 0.022pF +80% −20%
				P500-RESISTORS (All Resistors are ±5% & ¼W)
R501	1	1	GD05473140	47KΩ
R502	1	1	GD05103140	10KΩ
R503	1	1	GD05103140	10KΩ
R504	1	1	GD05103140	10KΩ
R505	1	1	GD05472140	4.7KΩ
R506	1	1	GD05472140	4.7KΩ
R507	1	1	GD05472140	4.7KΩ
R508	1	1	GD05331140	330Ω
R509	1	1	GD05561140	560Ω
R510	1	1	GD05101140	100Ω
R512	1	1	GD05472140	4.7KΩ
R513	1	1	GD05473140	47KΩ
R514	1	1	GD05222140	2.2KΩ
R515	1	1	GD05101140	100Ω
R516	1	1	GD05221140	220Ω
R517	1	1	GD05152140	1.5KΩ
R518	1	1	GD05223140	22KΩ
R519	1	1	GD05104140	100KΩ
R521	1	1	GD05103140	10KΩ
R522	1	1	GD05103140	10KΩ
R523	1	1	GD05103140	10KΩ
R524	1	1	GD05473140	47KΩ
R525	1	1	GD05473140	47KΩ
R530	1	1	GD05472140	4.7KΩ
R531	1	1	GD05103140	10KΩ

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
G501	1	1	BW10103050	10KΩ, Compo.
G502	1	1	BW10103050	10KΩ, Compo.
G503	1	1	BW10103050	10KΩ, Compo.
				P500-SEMICONDUCTORS
D501	1	1	HD20001000	Diode 1S2473
D502	1	1	HD20001000	Diode 1S2473
D503	1	1	HD20001000	Diode 1S2473
D504	1	1	HD20001000	Diode 1S2473
Q501	1	1	HC10071050	IC TD6301AP
Q502	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q503	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q504	1	1	HC10072050	IC TD6104AP
Q505	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q506	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q507	1	1	HT309452A0	Transistor 2SC945(Q or R)
Q508	1	1	HC10070050	IC TC9147P
				P500-MISCELLANEOUS
B501	1	1	ZB09010010	Battery, 200mA 3V
J501	1	1	YJ06002270	Jack, (8P)
J502	1	1	YJ06002390	Jack, (5P)
J503	1	1	YJ06002430	Jack, (3P)
J504	1	1	YJ06002430	Jack, (3P)
V501	1	1	HQ30902060	Display Unit FIP7B8S
X501	1	1	XB115001L2	Crystal, KD-0618DF 7.2MHz
				P700-MAIN AMP CIRCUIT BOARD
P700	1	1	YK127H3420	P.W. Board, Main Amp
	1	1	ZZ127H7420	P.W. Board Assembly
				P700-CAPACITORS
CN13	1	1	EA33701030	Elect 330μF 10V
CN14	1	1	EA33601030	Eaect 33μF 10V
CN16	1	1	EA47606330	Elect 47μF 63V
CN17	1	1	EA47601630	Elect 47μF 16V
C701	1	1	DK16221300	Ceramic 220pF ±10%
C702	1	1	DK16221300	Ceramic 220pF ±10%
C703	1	1	EA10505030	Elect 1μF 50V
C704	1	1	EA10505030	Elect 1μF 50V
C705	1	1	EA47505030	Elect 4.7μF 50V
C706	1	1	EA47505030	Elect 4.7μF 50V
C707	1	1	DK16561300	Ceramic 560pF ±10%
C708	1	1	DK16561300	Ceramic 560pF ±10%
C709	1	1	DD15200360	Ceramic 20pF ±5%
C710	1	1	DD15200360	Ceramic 20pF ±5%
C711	1	1	DD15270370	Ceramic 27pF ±5%
C712	1	1	DD15270370	Ceramic 27pF ±5%
C715	1	1	DD11070370	Ceramic 7pF ±0.5pF
C716	1	1	DD11070370	Ceramic 7pF ±0.5pF
C717	1	1	EA47606330	Elect 47μF 63V
C718	1	1	EA47606330	Elect 47μF 63V

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				P700-RESISTORS
				(All Resistor are ±5% & ¼W)
RN21	1	1	GD05224140	220KΩ
RN22	1	1	GD05223140	22KΩ
RN23	1	1	GD05223140	22KΩ
RN24	1	1	GD05393140	39KΩ
RN25	1	1	GD05223140	22KΩ
RN26	1	1	GG05161140	160Ω
RN29	1	1	GD05103140	10KΩ
RN30	1	1	GD05563140	56KΩ
R701	1	1	GD05474140	470KΩ
R702	1	1	GD05474140	470KΩ
R703	1	1	GD05221140	220Ω
R704	1	1	GD05221140	220Ω
R705	1	1	GD05273140	27KΩ
R706	1	1	GD05273140	27KΩ
R707	1	1	RA02230020	22KΩ(B), Trimming
R708	1	1	RA02230020	22KΩ(B), Trimming
R709	1	1	GD05272140	2.7KΩ
R710	1	1	GD05272140	2.7KΩ
R711	1	1	GD05683140	68KΩ
R712	1	1	GD05783140	68KΩ
R713	1	1	GD05471140	470Ω
R714	1	1	GD05471140	470Ω
R715	1	1	GD05152140	1.5KΩ
R716	1	1	GD05152140	1.5KΩ
R717	1	1	RA01020360	1KΩ(B), Trimming
R718	1	1	RA01020360	1KΩ(B), Trimming
R719	1	1	GD05272140	2.7KΩ
R720	1	1	GD05272140	2.7KΩ
⚠R721	1	1	GG05101140	100Ω
⚠R722	1	1	GG05101120	100Ω ½W
R739	1	1	GD05100140	10Ω
R740	1	1	GD05100140	10Ω
R741	1	1	GD05333140	33KΩ
R742	1	1	GD05333140	33KΩ
				P700-SEMICONDUCTORS
QN19	1	1	HC10046060	IC μPC1237H
QN20	1	1	HT109701A0	Transistor 2SA970(GR)
Q715	1	1	HC10032030	IC STK3082
				P700-MISCELLANEOUS
J703	1	1	YP06001040	Plug, (3P)
J704	1	1	YP06000570	Plug, (3P)

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				P701-MAIN AMP CIRCUT BOARD
P701	1	1	YK127H3410	P.W. Board, Main Amp
	1	1	ZZ127H7410	P.W. Board Assembly
				P701-CAPACITORS
CN01	1	1	DF15392350	Film 3900pF ±5%
CN02	1	1	DF15392350	Film 3900pF ±5%
CN03	1	1	DF15392350	Film 3900pF ±5%
CN04	1	1	DF15392350	Film 3900pF ±5%
CN05	1	1	DF15392350	Film 3900pF ±5%
CN06	1	1	DF15392350	Film 3900pF ±5%
CN07	1	1	DF15392350	Film 3900pF ±5%
CN08	1	1	DF15392350	Film 3900pF ±5%
CN09	1	1	DF15392350	Film 3900pF ±5%
CN10	1	1	DF15392350	Film 3900pF ±5%
CN11	1	1	DF15392350	Film 3900pF ±5%
CN12	1	1	DF15392350	Film 3900pF ±5%
C713	1	1	DF17473520	Film 0.047μF ±20%
C714	1	1	DF17473520	Film 0.047μF ±20%
C719	1	1	EA10706330	Elect 100μF 63V
C720	1	1	EA10706330	Elect 100μF 63V
C721	1	1	EA10706330	Elect 100μF 63V
C722	1	1	EA10706330	Elect 100μF 63V
C723	1	1	DK16331300	Ceramic 330pF ±10%
C724	1	1	DK16331300	Ceramic 330pF ±10%
C725	1	1	DK16221550	Ceramic 220pF ±10%
C726	1	1	DK16221550	Ceramic 220pF ±10%
				P701-RESISTORS
				(All Resistors are ±5% & ¼W)
RN01	1	1	GG05392140	3.9KΩ
RN02	1	1	GG05392140	3.9KΩ
RN03	1	1	GD05153140	15KΩ
RN04	1	1	GD05153140	15KΩ
RN05	1	1	GG05392140	3.9KΩ
RN06	1	1	GG05392140	3.9KΩ
RN11	1	1	GG05101140	100Ω
RN12	1	1	GG05101140	100Ω
RN13	1	1	GG05101140	100Ω
RN14	1	1	GG05101140	100Ω
RN15	1	1	GG05151140	150Ω
RN16	1	1	GG05151140	150Ω
RN17	1	1	GG05151140	150Ω
RN18	1	1	GG05151140	150Ω
RN19	1	1	GD05333140	33KΩ
RN20	1	1	GD05333140	33KΩ
RN31	1	1	GD05103140	10KΩ
RN32	1	1	GD05103140	10KΩ
RN33	1	1	GG05221140	220Ω
RN34	1	1	GG05221140	220Ω
RN35	1	1	GG05221140	220Ω
RN36	1	1	GG05221140	220Ω

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
R723	1	1	GG05068140	6.8Ω
R724	1	1	GG05068140	6.8Ω
R725	1	1	GG05068140	6.8Ω
R726	1	1	GG05068140	6.8Ω
R727	1	1	GO10332050	0.33Ω ±10% 5W
R728	1	1	GO10332050	0.33Ω ±10% 5W
R729	1	1	GO10332050	0.33Ω ±10% 5W
R730	1	1	GO10332050	0.33Ω ±10% 5W
R731	1	1	GA05271010	270Ω 1W
R732	1	1	GA05271010	270Ω 1W
R733	1	1	GA05100030	10Ω 3W
R734	1	1	GA05100030	10Ω 3W
R735	1	1	RC10022120	2.2Ω ½W
R736	1	1	RC10022120	2.2Ω ½W
R737	1	1	GA05331010	330Ω 1W
R738	1	1	GA05331010	330Ω 1W
				P701-SEMICONDUCTORS
QN01	1	1	HT309452A0	Transistor 2SC945(Q or R)
QN02	1	1	HT309452A0	Transistor 2SC945(Q or R)
QN03	1	1	HT107332A0	Transistor 2SA733(Q or R)
QN04	1	1	HT107332A0	Transistor 2SA733(Q or R)
QN05	1	1	HD20001210	Diode 1S2473
QN06	1	1	HD20001210	Diode 1S2473
QN07	1	1	HD20001210	Diode 1S2473
QN08	1	1	HD20001210	Diode 1S2473
QN09	1	1	HD20003210	Diode 1S2471
QN10	1	1	HD20003210	Diode 1S2471
QN11	1	1	HD20003210	Diode 1S2471
QN12	1	1	HD20003210	Dioee 1S2471
QN17	1	1	HT322401A0	Transistor 2SC2240(GR)
QN18	1	1	HT322401A0	Transistor 2SC2240(GR)
⚠Q701	1	1	HT323442A0	Transistor 2SC2344(D or E)
⚠Q702	1	1	HT323442A0	Transistor 2SC2344(D or E)
⚠Q703	1	1	HT110112A0	Transistor 2SA1011(D or E)
⚠Q704	1	1	HT110112A0	Transistor 2SA1011(D or E)
⚠Q705	1	1	HT329212B0	Transistor 2SC2921(O or Y)
⚠Q706	1	1	HT329212B0	Transistor 2SC2921(O or Y)
⚠Q707	1	1	HT112152B0	Transistor 2SA1215(O or Y)
⚠Q708	1	1	HT112152B0	Transistor 2SA1215(O or Y)
Q709	1	1	HD20015030	Diode DS135D
Q710	1	1	HD20015030	Diode DS135D
Q711	1	1	HD20015030	Diode DS135D
Q712	1	1	HD20015030	Diode DS135D
Q713	1	1	HT323622A0	Transistor 2SC2362(F or G)
Q714	1	1	HT323622A0	Transistor 2SC2362(F or G)
Q715	1	1	HC10032030	IC STK3082
				P701-MISCELLANEOUS
J701	1	1	YP06001060	Plug, (7P)
J702	1	1	YP06001060	Plug, (7P)
L701	1	1	LL23905120	Choke Coil
L702	1	1	LL23905120	Choke Coil

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				P800-POWER SUPPLY CIRCUT BOARD
P800	1	1	YK127H10H0	P.W. Board, Power Supply
	1	1	ZZ127H80H0	P.W. Board Assembly
				P800-CAPACITORS
C801	1	1	EA22802530	Elect 2200μF 25V
C802	1	1	EA22602530	Elect 2.2μF 25V
C803	1	1	EA10701630	Elect 100μF 16V
C804	1	1	EA22601630	Elect 22μF 16V
C805	1	1	EA22602530	Elect 22μF 25V
C806	1	1	EA22701630	Elect 220μF 16V
C807	1	1	EA10701630	Elect 100μF 16V
C808	1	1	EA10701630	Elect 100μF 16V
C809	1	1	DK16103550	Ceramic 0.01μF ±10%
C811	1	1	EA47505030	Elect 4.7μF 50V
C812	1	1	EB10906330	Elect 10000μF 63V
C813	1	1	EB10906330	Elect 10000μF 63V
C814	1	1	EA10606330	Elect 10μF 63V
C815	1	1	EA22605030	Elect 22μF 50V
C816	1	1	EA10702530	Elect 100μF 25V
C817	1	1	EA10702530	Elect 100μF 25V
C818	1	1	EA10606330	Elect 10μF 63V
C819	1	1	EA22605030	Elect 22μF 50V
C820	1	1	EA10702530	Elect 100μF 25V
C821	1	1	EA10702530	Elect 100μF 25V
				P800-SEMICONDUCTORS
⚠D801	1	1	HD20015030	Diode DS135D
⚠D802	1	1	HD20015030	Diode DS135D
D803	1	1	HD30051090	Zener WZ-058
D804	1	1	HD30027090	Zener WZ-140
⚠D805	1	1	HD20008290	Diode S4VB
D809	1	1	HD30048090	Zener WZ-210
D810	1	1	HD30048090	Zener WZ-210
⚠D811	1	1	HD20015030	Diode DS135D
⚠Q801	1	1	HT404002B0	Transistor 2SD400 (O or P)
⚠Q802	1	1	HT403131E0	Transistor 2SD313
⚠Q803	1	1	HT403131E0	Transistor 2SD313
⚠Q804	1	1	HT205071Q0	Transistor 2SB507
				P800-RESISTORS (All Resistors are ±5% & ¼W)
⚠R801	1	1	GA05151010	150Ω 1W
R802	1	1	GD05152140	1.5KΩ
R804	1	1	GD05221140	220Ω
R805	1	1	GD05221140	220Ω
R806	1	1	GD05273140	27KΩ
⚠R807	1	1	GA05151020	150Ω 2W
R808	1	1	GD05102140	1KΩ
R809	1	1	GD05102140	1KΩ
⚠R810	1	1	GA05151020	150Ω 2W
R811	1	1	GD05102140	1KΩ
R812	1	1	GD05102140	1KΩ

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				PC50-DE-EMPHASIS CIRCUIT BOARD
PC50	1	1	YK127H1440	P.W. Board, DE-Emphasis
	1	1	ZZ127H8440	P.W. Board Assembly
				PC50-CAPACITORS
CC01	1	1	DF16122350	Film 1200pF ±10%
CC02	1	1	DF16122350	Film 1200pF ±10%
				PC50-MISCELLANEORS
SC01	1	1	SS02020640	Slide Switch, DE-Emphasis
SC02	1	1	SS02020640	Slide Switch, Scan Step
WC02	1	1	YU03360260	Jumper Lead, (3P)
				PE00-EQ AMP CIRCUIT BOARD
PE00	1	1	YK127H10B0	P.W. Bpard, EQ Amp
	1	1	ZZ127H80B0	P.W. Board Assembly
				PE00-CAPACITORS
CE01	1	1	EA47505030	Elect 4.7μF 50V
CE02	1	1	EA47505030	Elect 4.7μF 50V
CE03	1	1	EA10701630	Elect 100μF 16V
CE04	1	1	EA10701630	Elect 100μF 16V
CE05	1	1	EA10701630	Elect 100μF 16V
CE06	1	1	EA10701630	Elect 100μF 16V
CE07	1	1	EA22505030	Elect 2.2μF 50V
CE08	1	1	EA22505030	Elect 2.2μF 50V
CE09	1	1	DF15104350	Film 0.1μF ±5%
CE10	1	1	DF15104350	Film 0.1μF ±5%
CE11	1	1	DD15220370	Ceramic 22pF ±5%
CE12	1	1	DD15220370	Ceramic 22pF ±5%
CE13	1	1	EA47405030	Elect 0.47μF 50V
CE14	1	1	EA47405030	Elect 0.47μF 50V
CE15	1	1	DF16223350	Film 0.022μF ±10%
CE16	1	1	DF16223350	Film 0.022μF ±10%
CE17	1	1	DD15220370	Ceramic 22pF ±5%
CE18	1	1	DD15220370	Ceramic 22pF ±5%
CE19	1	1	DF15154350	Film 0.15μF ±5%
CE20	1	1	DF15154350	Film 0.15μF ±5%
CE21	1	1	DF16562350	Film 5600pF ±10%
CE22	1	1	DF16562350	Film 5600pF ±10%
CE23	1	1	DD15220370	Ceramic 22pF ±5%
CE24	1	1	DD15220370	Ceramic 22pF ±5%
CE25	1	1	DF16333350	Film 0.033μF ±10%
CE26	1	1	DF16333350	Film 0.033μF ±10%
CE27	1	1	DF16152350	Film 1500pF ±10%
CE28	1	1	DF16152350	Film 1500pF ±10%
CE29	1	1	DD15220370	Ceramic 22pF ±5%
CE30	1	1	DD15220370	Ceramic 22pF ±5%
CE31	1	1	DF16822350	Film 8200pF ±10%
CE32	1	1	DF16822350	Film 8200pF ±10%
CE33	1	1	DD15391370	Ceramic 390pF ±5%
CE34	1	1	DD15391370	Ceramic 390pF ±5%
CE35	1	1	DD15220370	Ceramic 22pF ±5%
CE36	1	1	DD15220370	Ceramic 22pF ±5%

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				PE00-RESISTORS (All Resistors are ±5% & ¼W)
RE01	1	1	GD05221140	220Ω
RE02	1	1	GD05221140	220Ω
RE03	1	1	GD05223140	22KΩ
RE04	1	1	GD05223140	22KΩ
RE05	1	1	GD05392140	3.9KΩ
RE06	1	1	GD05392140	3.9KΩ
RE07	1	1	GD05332140	3.3KΩ
RE08	1	1	GD05332140	3.3KΩ
RE09	1	1	GD05473140	47KΩ
RE10	1	1	GD05473140	47KΩ
RE11	1	1	GD05102140	1KΩ
RE12	1	1	GD05102140	1KΩ
RE13	1	1	GD05101140	100Ω
RE14	1	1	GD05101140	100Ω
RE15	1	1	GD05472140	4.7KΩ
RE16	1	1	GD05472140	4.7KΩ
RE17	1	1	GD05473140	47KΩ
RE18	1	1	GD05473140	47KΩ
RE19	1	1	GD05102140	1KΩ
RE20	1	1	GD05102140	1KΩ
RE21	1	1	GD05101140	100Ω
RE22	1	1	GD05101140	100Ω
RE23	1	1	GD05472140	4.7KΩ
RE24	1	1	GD05472140	4.7KΩ
RE25	1	1	GD05473140	47KΩ
RE26	1	1	GD05473140	47KΩ
RE27	1	1	GD05102140	1KΩ
RE28	1	1	GD05102140	1KΩ
RE29	1	1	GD05101140	100Ω
RE30	1	1	GD05101140	100Ω
RE31	1	1	GD05472140	4.7KΩ
RE32	1	1	GD05472140	4.7KΩ
RE33	1	1	GD05473140	47KΩ
RE34	1	1	GD05473140	47KΩ
RE35	1	1	GD05102140	1KΩ
RE36	1	1	GD05102140	1KΩ
RE37	1	1	GD05101140	100Ω
RE38	1	1	GD05101140	100Ω
RE39	1	1	GD05472140	4.7KΩ
RE40	1	1	GD05472140	4.7KΩ
RE41	1	1	GD05473140	47KΩ
RE42	1	1	GD05473140	47KΩ
RE43	1	1	GD05102140	1KΩ
RE44	1	1	GD05102140	1KΩ
RE45	1	1	GD05101140	100Ω
RE46	1	1	GD05101140	100Ω
RE47	1	1	GD05472140	4.7KΩ
RE48	1	1	GD05472140	4.7KΩ
RE54	1	1	RS05030380	50KΩ(W), Variable
RE55	1	1	RS05030380	50KΩ(W), Variable

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				PE00-SEMICONDUCTORS
QE01	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE02	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE03	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE04	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE05	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE06	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE07	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE08	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE09	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE10	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE11	1	1	HC10013370	IC TL4558PB
				PE00-MISCELLANEOUS
WE01	1	1	YU08140260	Jumper Lead, (8P)
WE02	1	1	YU07140260	Jumper Lead, (7P)
				PE01-EQ VOLUME CIRCUT BOARD
PE01	1	1	YK127H10C0	P.W. Board, EQ Volume
	1	1	ZZ127H80C0	P.W. Board Assembly
				PE01-RESISTORS
RE49	1	1	RS05030380	50KΩ(W), Variable
RE50	1	1	RS05030380	50KΩ(W), Variable
RE51	1	1	RS05030380	50KΩ(W), Variable
RE52	1	1	RS05030380	50KΩ(W), Variable
RE53	1	1	RS05030380	50KΩ(W), Variable
				PG00-VOLUME/BALANCE CIRCUIT BOARD
PG00	1	1	YK127H10D0	P.W. Board, Volume/Balance
	1	1	ZZ127H80D0	P.W. Board Assembly
				PG00-RESISTORS
RG01	1	1	RM01040270	100KΩ(B), Variable
RG02	1	1	RK02040120	200KΩ(W), Variable
				PJ00-TAPE MONITOR SW CIRCUIT BOARD
PJ00	1	1	YH104H0210	P.W. Board, Tape Monitor SW.
	1	1	ZZ104H0210	P.W. Board Assembly
				PJ00-MISCELLANEOUS
JJ01	1	1	YT02040340	Terminal
JJ02	1	1	YT02040340	Terminal
SJ01	1	1	SS06060010	Slide Switch, Tape Monitor
SJ02	1	1	SR00050100	Rotary Switch, Tape Monitor
WJ01	1	1	YU07160260	Jumper Lead, (7P)
				PK00-HEADPHONE/EQ OUT CITCUIT BOARD
PK00	1	1	YK127H10G0	P.W. Board, Headphone/EQ Out
	1	1	ZZ127H80G0	P.W. Board Assembly
				PK00-RESISTORS
RK01	1	1	GD05103140	10KΩ ±5% ¼W
RK02	1	1	GD05103140	10KΩ ±5% ¼W
RK03	1	1	GD05681140	680Ω ±5% ¼W
RK04	1	1	GD05681140	680Ω ±5% ¼W
				PK00-MISCELLANEOUS
JK01	1	1	YJ01001640	Jack, EQ Out
JK02	1	1	YJ01001640	Jack, Headphone

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				PL00-SPEAKER-PROTECTOR CIRCUIT BOARD
PL00	1	1	YK127H10E0	P.W. Board Speaker-Protector
	1	1	ZZ127H80E0	P.W. Board Assembly
				PL00-RESISTORS
RL01	1	1	GG05152120	1.5KΩ ±5% ½W
RL02	1	1	GG05152120	1.5KΩ ±5% ½W
				PL00-SEMICONDUCTORS
DL01	1	1	HD20015030	Diode DS135D
DL02	1	1	HD20015030	Diode DS135D
				PL00-MISCELLANEOUS
JL01	1	1	YT03080010	Terminal Speaker, (8P)
LL01	1	1	LY020240190	Relay, System 1
LL02	1	1	LY020240190	Relay, System 2
				PS00-SWITCH CIRCUIT BOARD
PS00	1	1	YK127H10A0	P.W. Board, Switch
	1	1	ZZ127H80A0	P.W. Board Assembly
				PS00-CAPACITORS
CS01	1	1	DK16681300	Ceramic 680pF ±10%
CS02	1	1	DK16681300	Ceramic 680pF ±10%
CS03	1	1	DF16473350	Film 0.047μF ±10%
CS04	1	1	DF16473350	Film 0.047μF ±10%
CS05	1	1	EA10505030	Elect 1μF 50V
CS06	1	1	EA10505030	Elect 1μF 50V
CS07	1	1	DK16181300	Ceramic 180pF ±10%
CS08	1	1	DK16181300	Ceramic 180pF ±10%
CS09	1	1	EA10602530	Elect 10μF 25V
CS10	1	1	EA10602530	Elect 10μF 25V
CS11	1	1	DF16122350	Film 1200pF ±10%
CS12	1	1	DF16122350	Film 1200pF ±10%
CS13	1	1	DF16222350	Film 2200pF ±10%
CS14	1	1	DF16222350	Film 2200pF ±10%
CS15	1	1	DF15154350	Film 0.15μF ±5%
CS16	1	1	DF15154350	Film 0.15μF ±5%
CS17	1	1	DF15104350	Film 0.1μF ±10%
CS18	1	1	DF15104350	Film 0.1μF ±10%
CS19	1	1	EA22505030	Elect 2.2μF 50V
CS20	1	1	EA22505030	Elect 2.2μF 50V
CS21	1	1	EA10602530	Elect 10μF 25V
CS22	1	1	EA10602530	Elect 10μF 25V
CS23	1	1	EA10701630	Elect 100μF 16V
CS24	1	1	EA10701630	Elect 100μF 16V
				PS00-RESISTORS (All Resistors are ±5% & ¼W)
RS01	1	1	GD05222140	2.2KΩ
RS02	1	1	GD05222140	2.2KΩ
RS03	1	1	GD05222140	2.2KΩ
RS04	1	1	GD05222140	2.2KΩ
RS05	1	1	GD05183140	18KΩ
RS06	1	1	GD05183140	18KΩ
RS07	1	1	GD05682140	6.8KΩ
RS08	1	1	GD05682140	6.8KΩ
RS09	1	1	GD05221140	220Ω
RS10	1	1	GD05221140	220Ω

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
RS11	1	1	GD05473140	47KΩ
RS12	1	1	GD05473140	47KΩ
RS13	1	1	GD05392140	3.9KΩ
RS14	1	1	GD05392140	3.9KΩ
RS15	1	1	GD05561140	560Ω
RS16	1	1	GD05561140	560Ω
RS17	1	1	GD05391140	390Ω
RS18	1	1	GD05391140	390Ω
RS19	1	1	GD05104140	100KΩ
RS20	1	1	GD05104140	100KΩ
RS21	1	1	GD05273140	27KΩ
RS22	1	1	GD05273140	27KΩ
RS23	1	1	GD05123140	12KΩ
RS24	1	1	GD05123140	12KΩ
RS25	1	1	GD05123140	12KΩ
RS26	1	1	GD05123140	12KΩ
RS27	1	1	GD05274140	270KΩ
RS28	1	1	GD05274140	270KΩ
RS29	1	1	GD05473140	47KΩ
RS30	1	1	GD05473140	47KΩ
RS31	1	1	GD05224140	220KΩ
RS32	1	1	GD05224140	220KΩ
RS33	1	1	GD05101140	100Ω
RS34	1	1	GD05101140	100Ω
RS35	1	1	GD05472140	4.7KΩ
RS36	1	1	GD05472140	4.7KΩ
RS37	1	1	GD05104140	100KΩ
RS38	1	1	GD05104140	100KΩ
RS39	1	1	GD05331140	330Ω
RS40	1	1	GD05331140	330Ω
⚠RS41	1	1	GD05101140	100Ω
⚠RS42	1	1	GD05101140	100Ω
RS43	1	1	GD05104140	100KΩ
RS44	1	1	GD05104140	100KΩ
RS45	1	1	GG05392120	3.9KΩ ½W
RS46	1	1	GD05103140	10KΩ
RS47	1	1	GG05182120	1.8KΩ ½W
RS48	1	1	GD05102140	1KΩ
RS49	1	1	GD05102140	1KΩ
				PS00-SEMICONDUCTORS
QS01	1	1	HT323622B0	Transistor 2SC2362(F or G)
QS02	1	1	HT323622B0	Transistor 2SC2362(F or G)
QS03	1	1	HC10013370	IC TL4558PB
QS04	1	1	HT309452A0	Transistor 2SC945(Q or R)
QS05	1	1	HT309452A0	Transistor 2SC945(Q or R)
				PS00-MISCELLANEOUS
SS01	1	1	SP02090020	Push Switch
WS01	1	1	YU07260260	Jumper Lead, (7P)
WS02	1	1	YU07140260	Jumper Lead, (7P)
WS03	1	1	YU07200260	Jumper Lead, (7P)
WS04	1	1	YU03180260	Jumper Lead, (3P)
WS05	1	1	YU03200260	Jumper Lead, (3P)
WS06	1	1	YU03140260	Jumper Lead, (3P)

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				PT00-KEY BOARD CIRCUIT BOARD
PT00	1	1	YK127H1430	P.W. Board, Key Board
	1	1	ZZ127H8430	P.W. Board Assembly
				PT00-RESISTORS
RT01	1	1	GD05102140	1KΩ ±5% ¼W
RT02	1	1	GD05102140	1KΩ ±5% ¼W
				PT00-SEMICONDUCTORS
DT01	1	1	HI10003320	L.E.D. GL-2PR1
DT02	1	1	HI10003320	L.E.D. GL-2PR1
DT03	1	1	HI10003320	L.E.D. GL-2PR1
DT04	1	1	HI10003320	L.E.D. GL-2PR1
DT05	1	1	HI10003320	L.E.D. GL-2PR1
DT06	1	1	HI10003320	L.E.D. GL-2PR1
DT07	1	1	HI10003320	L.E.D. GL-2PR1
DT08	1	1	HI10003320	L.E.D. GL-2PR1
DT09	1	1	HI10003320	L.E.D. GL-2PR1
				PT00-MISCELLANEOUS
ST01	1	1	SP01010470	Push Switch, Memory 1
ST02	1	1	SP01010470	Push Switch, Memory 2
ST03	1	1	SP01010470	Push Switch, Memory 3
ST04	1	1	SP01010470	Push Switch, Memory 4
ST05	1	1	SP01010470	Push Switch, Memory 5
ST06	1	1	SP01010470	Push Switch, Memory 6
ST07	1	1	SP01010470	Push Switch, Memory 7
ST08	1	1	SP01010470	Push Switch, Memory 8
ST09	1	1	SP01010470	Push Switch, Memory 9
ST10	1	1	SP01010470	Push Switch, Down
ST11	1	1	SP01010470	Push Switch, Up
WT01	1	1	YU05080260	Jumper Lead, (5P)
WT02	1	1	YU04080260	Jumper Lead, (4P)
WT03	1	1	YU04100260	Jumper Lead, (4P)
				PU00-POWER SWITCH CIRCUIT BOARD
PU00	1	1	YK127H10F0	P.W. Board, Power Switch
	1		ZZ127H80F0	P.W. Board Assembly
		1	ZZ127H90F0	P.W. Board Assimbly
				PU00-CAPACITORS
GO01	1		DK18103840	Ceramic 0.01μF +80% −20%
		1	DK18103850	Ceramic 0.01μF +80% −20%
				PU00-MISCELLANEOUS
SO01	1		SP01010390	Push Switch, Power
		1	SP01010430	Push Switch, Power

• (E): for Europe
• (P): for PX

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				PX00-POWER METER CITCUIT BOARD
PX00	1	1	YK127H10I0	P.W. Board, Power Meter
	1	1	ZZ127H80I0	P.W. Board Assembly
				PX00-CAPACITORS
CX01	1	1	EA10602530	Elect 10μF 25V
CX02	1	1	EA10602530	Elect 10μF 25V
CX03	1	1	EA47505030	Elect 4.7μF 50V
CX04	1	1	EA47505030	Elect 4.7μF 50V
CX05	1	1	EA47505030	Elect 4.7μF 50V
CX06	1	1	EA47505030	Elect 4.7μF 50V
CX07	1	1	DD15560370	Ceramic 56pF ±5%
CX08	1	1	DD15560370	Ceramic 56pF ±5%
CX51	1	1	EA47405030	Elect 0.47μF 50V
				PX00-RESISTORS
				(All Resistors are ±5% & ¼W)
RX01	1	1	GD05683140	68KΩ
RX02	1	1	GD05683140	68KΩ
RX03	1	1	RA02020800	2KΩ(B), Trimming
RX04	1	1	RA02020800	2KΩ(B), Trimming
RX05	1	1	GD05561140	560Ω
RX06	1	1	GD05561140	560Ω
RX07	1	1	GD05822140	8.2KΩ
RX08	1	1	GD05822140	8.2KΩ
RX09	1	1	GD05104140	100KΩ
RX10	1	1	GD05104140	100KΩ
RX11	1	1	GD05562140	5.6KΩ
RX12	1	1	GD05182140	1.8KΩ
RX13	1	1	GD05562140	5.7KΩ
RX51	1	1	GD05152140	1.5KΩ
RX52	1	1	GD05152140	1.5KΩ
RX53	1	1	GD05152140	1.5KΩ
RX54	1	1	GD05102140	1KΩ
RX55	1	1	GD05102140	1KΩ
				PX00-SEMICONDUCTORS
DX01	1	1	HD30076090	Zener WZ-038
DX02	1	1	HD30076090	Zener WZ-038
DX03	1	1	HD20001000	Diode IS2473
DX04	1	1	HD20001000	Diode IS2473
QX01	1	1	HC10051030	IC LB1405
QX02	1	1	HC10051030	IC LB1405
QX51	1	1	HC10008370	IC TL489C
				PX00-MISCELLANEOUS
JX01	1	1	YJ06002450	Jack, (6P)
JX02	1	1	YJ06002450	Jack, (6P)
WX04	1	1	YU05280260	Jumper Lead, (5P)

REF. DESIG.	Q'TY E	Q'TY P	PART NO.	DESCRIPTION
				PX01-POWER L.E.D. CIRCUIT BOARD
PX01	1	1	YK127H10J0	P.W. Board, Power L.E.D.
	1	1	ZZ127H80J0	P.W. Board Assembly
				PX01-SEMICONDUCTORS
DX05	1	1	HI10030020	L.E.D. LN224RP(RED)
DX06	1	1	HI10030020	L.E.D. LN224RP(RED)
DX07	1	1	HI10030020	L.E.D. LN224RP(RED)
DX08	1	1	HI10030020	L.E.D. LN224RP(RED)
DX09	1	1	HI10030020	L.E.D. LN224RP(RED)
DX10	1	1	HI10030020	L.E.D. LN224RP(RED)
DX11	1	1	HI10030020	L.E.D. LN224RP(RED)
DX12	1	1	HI10030020	L.E.D. LN224RP(RED)
DX13	1	1	HI10030020	L.E.D. LN224RP(RED)
DX14	1	1	HI10030020	L.E.D. LN224RP(RED)
DX15	1	1	HI10030020	L.E.D. LN224RP(RED)
DX51	1	1	HI10031020	L.E.D. LN324GP(GRN)
DX52	1	1	HI10031020	L.E.D. LN324GP(GRN)
DX53	1	1	HI10030020	L.E.D. LN224RP(RED)
DX54	1	1	HI10030020	L.E.D. LN224RP(RED)
DX55	1	1	HI10030020	L.E.D. LN224RP(RED)
DX56	1	1	HI10030020	L.E.D. LN224RP(RED)
DX57	1	1	HI10030020	L.E.D. LN224RP(RED)
DX58	1	1	HI10031020	L.E.D. LN324GP(GRN)
				PX01-MISCELLANEOUS
WX01	1	1	YU06100260	Jumper Lead, (6P)
WX02	1	1	YU06100260	Jumper Lead, (6P)
WX03	1	1	YU07160260	Jumper Lead, (7P)

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

12. TECHNICAL SPECIFICATIONS

AUDIO SECTION

POWER OUTPUT PER CHANNEL

4 OHMS DIN . . . . . **100 W**
4 OHMS RMS . . . . . **88 W**
8 OHMS DIN . . . . . **85 W**
8 OHMS RMS . . . . . **80 W**
TOTAL HARMONIC DISTORTION AT RMS 8 OHMS **0.03%**
DAMPING FACTOR 8 OHMS (1 kHz) **70**

Frequency Response
Phono (RIAA) . . . . . ±0.5 dB (20 Hz ~ 20 kHz)
Aux (±2 dB) . . . . . 16 Hz ~ 30 kHz
Signal-to-Noise Ratio
Phono (7.75 mV, 20 V output) . . . . . 85 dB
Aux (Vol. Max., 20 V output) . . . . . 98 dB
Input Terminals
Phono: Input Sensitivity/Impedance . . . . . 2.7 mV/47 kohms
Aux: Input Sensitivity/Impedance . . . . . 160 mV/20 kohms

FM TUNER SECTION

Frequency Range . . . . . 87.5 ~ 108 MHz
Usable Sensitivity
DIN Mono (S/N 26 dB, 75 ohms) . . . . . 0.9 μV
DIN Stereo (S/N 46 dB, 75 ohms) . . . . . 20 μV
Alternate Channel Selectivity, 98 MHz . . . . . 70 dB
Signal-to-Noise Ratio, 98 MHz
Unweighted: Mono . . . . . 75 dB
Stereo . . . . . 67 dB
Weighted: Mono . . . . . 77 dB
Stereo . . . . . 70 dB

MW TUNER SECTION

Frequency Range . . . . . 520 ~ 1711 (10 k STEP)
522 ~ 1611 (9 k STEP)
Usable Sensitivity (20 dB S/N 30% Mod., 1 MHz) . . . . . 20 μV
Selectivity . . . . . 20 dB

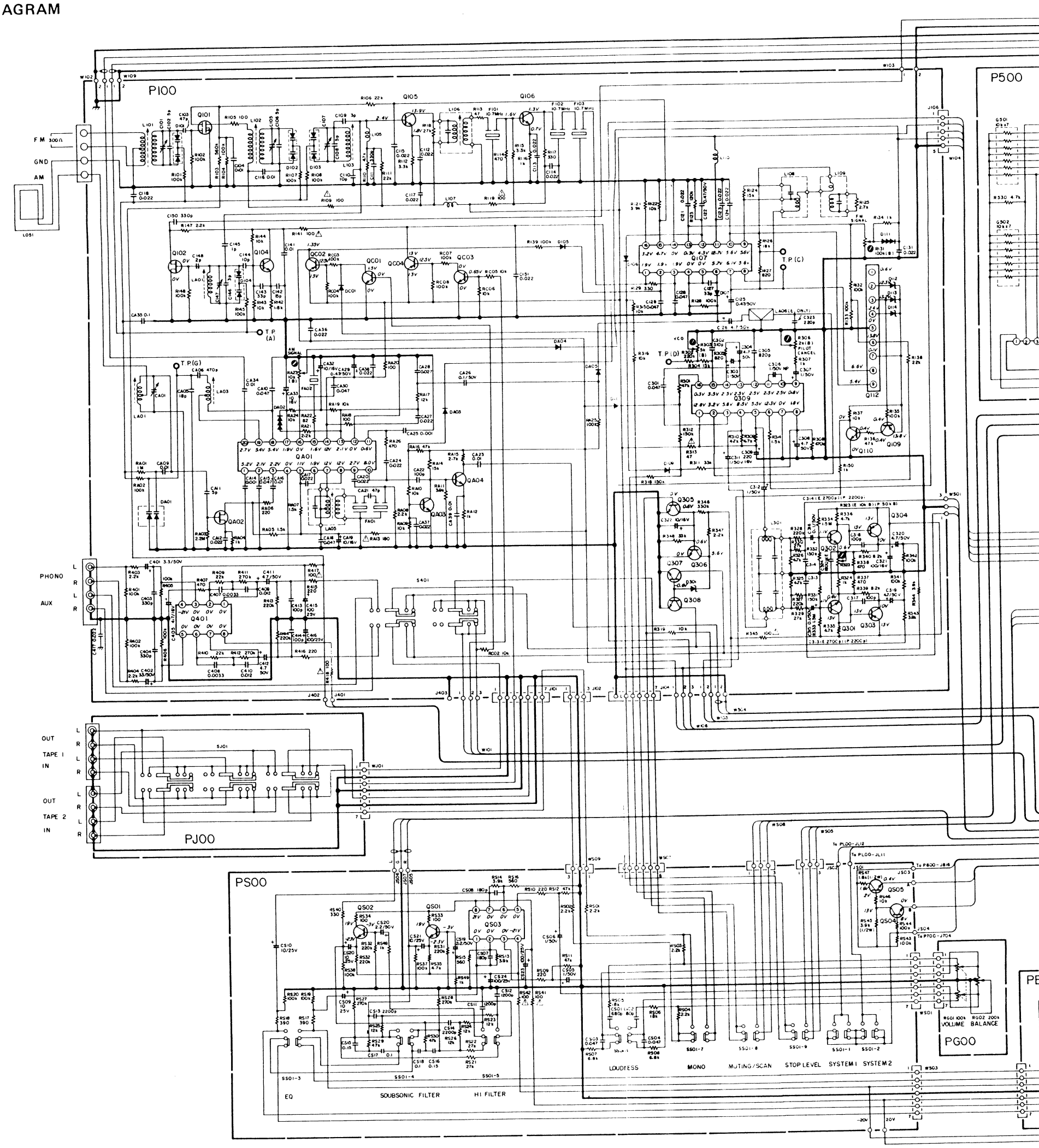
GENERAL

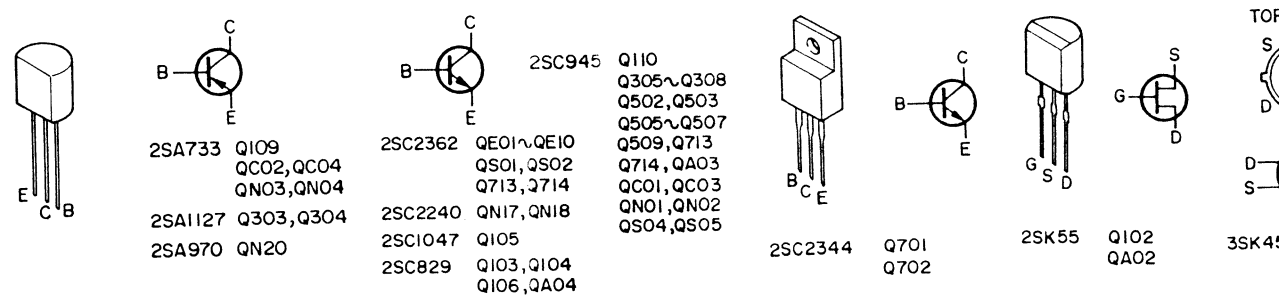
Power Requirements . . . . . 220 V AC, 50 Hz
(E and P versions can be converted by a qualified technician to operate on 110/120/240 V.)
Power Consumption at Rated Output, Both Channels Operating . . . . . 320 W
Dimensions
Panel Width . . . . . 416 mm
Panel Height . . . . . 117.5 mm
Depth . . . . . 391 mm
Weight
Unit alone . . . . . 10 kg

MEMORANDUM

13. SCHEMATIC DIAGRAM

Q101	HF400451B0	3SK45
Q102	HF200551D0	2SK55
Q104) Q106	HT308291C1	2SC829 C
Q105	HT310471C1	2SC1047 C
Q107	HC1003300	HAI1225
Q112	HC1009903 0	LB1450
Q109	HT1073321	2SA733
Q110 Q305∿Q308	HT309452A1	2SC945 Q,R
Q301,Q302	HT326342B1	2SC2634 S,T
Q303,Q304	HT1112728 0	2SA1127
Q309	HC1000142 0	KB3347
Q401	HC1001337 0	TL4558 PB
Q501	HC1007105 0	TD6301AP
Q502,Q503 Q505∿Q507	HT309452A1	2SC945 Q,R
Q509	HT309452A1	2SC945 Q,R
Q504	HC1007205 0	TD6104 AP
Q508	HC1007005 0	TC9147 P
Q701,Q702	HT3234420	2SC2344 D,E
Q703,Q704	HT1101120	2SA1011 D,E
Q705,Q706	HT3292128 0	2SC2921 O,Y
Q707,Q708	HT1121528 0	2SA1215 O,Y
Q709∿Q712	HD2001503 0	DS-135D
Q713,Q714	HT3236220	2SC2362 F,G
Q715	HC1003302 0	STK-3082
Q801	HT4040028 0	2SD400 E,F
Q804	HT2050710 0	2SB507
Q802,Q803	HD4031316 0	2SD313 E
QA01	HC1005803 0	LA1245
QA02	HF2005510 0	2SK55
QA03	HT3094520	2SC945 Q,R
QA04	HT3082911	2SC829 C
QC01,QC03	HT309452A1	2SC945 Q,R
QC02,QC04	HT1073321	2SA733 Q,R
QE01,QE02 QE03∿QE10	HT3236228 1	2SC2362 G,H
QE11	HC1001337 0	TL4558 PB
QL01,QL02	HD2001503 0	DS-135D
QN01,QN02	HT309452A0	2SC945 Q,R
QN03,QN04	HT1073320	2SA733 Q,R
QN05∿QN08	HD2000100 1	IS2473
QN09∿QN12	HD2000321 0	IS2471
QN17,QN18	HT3224010	2SC2240 G,R
QN19	HC1004605 0	UPC1237 H
QN20	HT1097010	2SA970 G,R
QS01,QS02	HT3236228 1	2SC2362
QS03	HC1001337 0	TL4558 PB
QS04,QS05	HT309452A1	2SC945 Q,R
QX01,QX02	HC1005103 0	LB1405
QX51	HC1000837 0	TL489C
DI01∿DI04	HD4000703 0	SVC202
DI05∿DI07	HD2000100 1	IS2473
DI09,DI10	HD2000100 1	IS2473
DI08	HD3007609 0	WZ-038
DI12∿DI14		
DI11	HV0000612 0	MV-203
D301	HD3002909 0	WZ-090
D501∿D504	HD2000100 1	IS2473
D801,D802 DB11	HD2001503 0	DS-135D
DB03	HD3005109 0	WZ-058
DB04	HD3002709 0	WZ-140
DB05	HD2000829 0	S4VB
DB09,DB10	HD3004809 0	WZ-210
DC01	HD2000100 1	IS2473
DT01∿DT09	H1100033 20	GL-2PR1
DX01,DX02	HD3007609 0	WZ-038
DX03,DX04	HD2000100 1	IS2473
DX05∿DX15	H1100300 20	LN224RP
DX51,DX52	H1100310 20	LN324GP
DX53∿DX58	H1100300 20	LN224RP
DA01	HD4000342 0	KV-1236Z
DA02	HV0000612 0	MV-203
DA03,DA05	HD2001000 0	IS2473
DA04	HD3005209 0	WZ-056

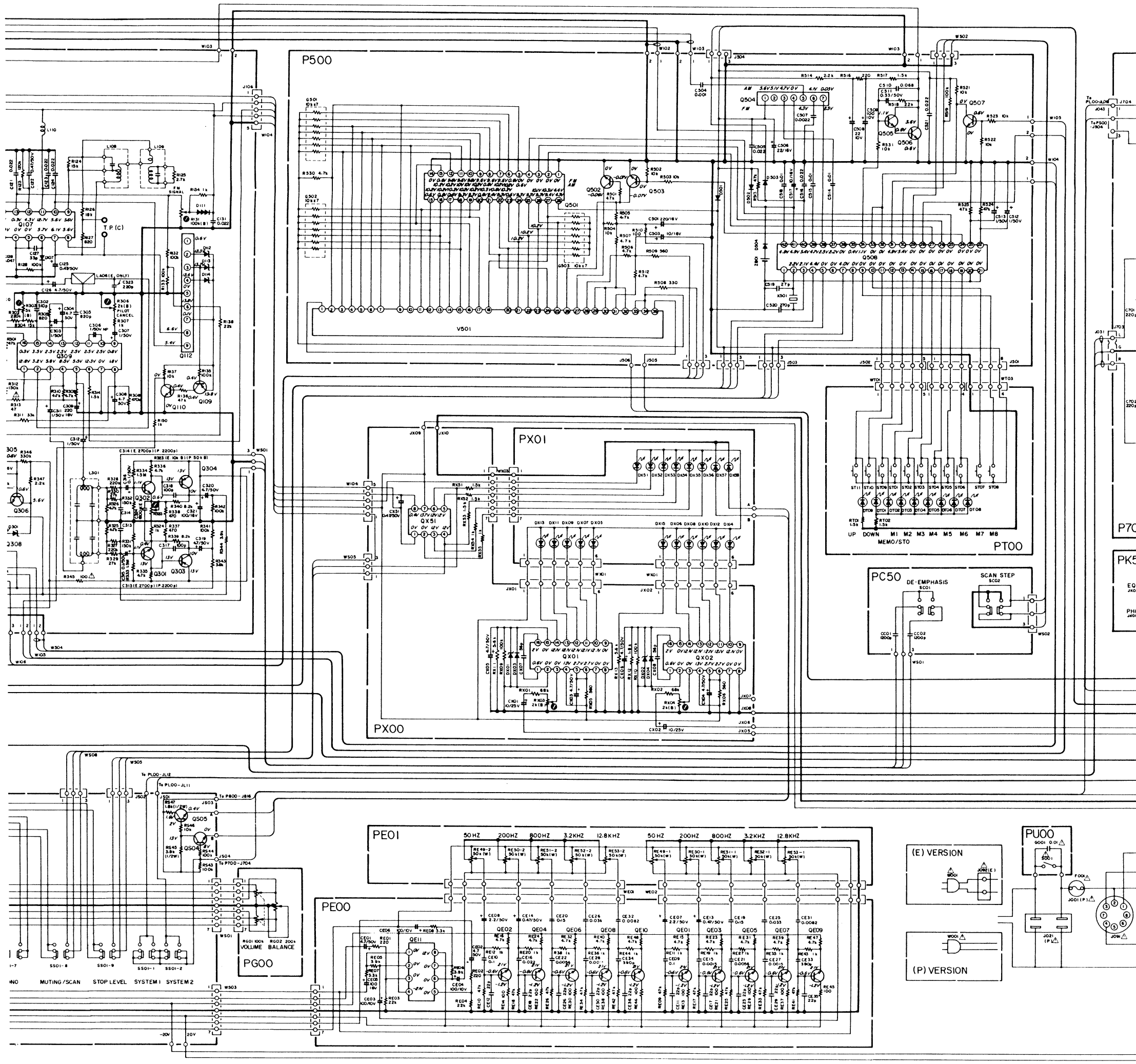




NOTE ON SAFETY:

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

Components and wiring are subject to change for modification without notice.



TOP VIEW

2SC2344 Q701 Q702

2SK55 Q102 QA02

3SK45 Q101

2SD1265 Q801∼Q803

2SB507 Q804
2SA1011 Q703,Q704

TOP VIEW
TL4558PB QE11,Q401 QS03
TL489C QX51

2SC2921 Q705,Q706

SIDE VIEW
BCE

2SA1215 Q707,Q708

SIDE VIEW
TD6104AP Q502

SIDE VIEW
μPC1237H QN19

ect to change for modification without notice.

P701

P700

PT00

PK50

PL00

PU00

P800

SCAN STEP

EQ OUT

PHONES

SYSTEM(2)

SYSTEM(1)

SIDE VIEW

TD6104AP
Q502

SIDE VIEW

µPC1237H
QN19

TOP VIEW

LB1415
QX01, QX02

TOP VIEW

HA11225
Q107

SIDE VIEW

STK-3082 Q715

STK-3082

TOP VIEW

LA1245
QA01

TOP VIEW

TD6301AP
Q501

TOP VIEW

TC9147P
Q508